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Pan-Asian Committee
for Treatment and Research in Multiple Sclerosis

THE 18th CONGRESS OF THE PAN-ASIAN COMMITTEE FOR TREATMENT AND RESEARCH IN MULTIPLE SCLEROSIS

19-21 NOVEMBER 2026 HILTON TAIPEI SINBAN, TAIWAN





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Welcome Note

Dear Colleagues and Friends,

It is my great pleasure to extend a very warm welcome to you to the 18th Annual Congress of the Pan-Asian Committee for Treatment and Research in Multiple Sclerosis (PACTRIMS 2026), to be held in the vibrant city of Taipei, Taiwan, from 19th–21st November 2026.

We are honored to host this distinguished gathering of clinicians, researchers, scientists, allied health professionals, and industry partners, all of whom share a common commitment to advancing the understanding and management of multiple sclerosis and related neuroimmunological disorders.

This year's scientific program offers a rich and comprehensive agenda, featuring plenary lectures, symposia, interactive sessions, and poster presentations, along with meaningful opportunities for early-career researchers to engage, learn, and contribute to our growing community.

We are also delighted to welcome you to Taipei, a city celebrated for its unique blend of culture, heritage, and modern development. We hope that, alongside an enriching academic experience, you will also have the opportunity to experience the warmth of local hospitality and explore the city's vibrant surroundings.

We sincerely hope that PACTRIMS 2026 will serve not only as a platform for scientific exchange and clinical advancement, but also as a means to foster lasting friendships and collaborations that extend well beyond the congress.

On behalf of the Organizing Committee, I thank you for your continued support and participation. We look forward to welcoming you to Taipei and to sharing an inspiring and memorable congress together.

Warm regards,



Jen Jen Su
Chair, Local Organizing Committee
PACTRIMS 2026

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適應症：全身型重症肌無力。作為標準治療的附加治療，用於治療抗乙醯膽鹼受體 (AChR) 抗體陽性之全身型重症肌無力 (gMG) 成年病人。**用法用量：**建議靜脈輸注 ULTOMIRIS 起始劑量和維持劑量依據病人體重而定。如右表所示，投與起始劑量 2 週後，開始以 8 週間隔給予維持劑量。在預定輸注給藥天的 7 天內，偶而可以稍加變通給藥計劃 (除了第一次維持劑量以外)，但後續的劑量必須依據原來的計畫給藥。**禁忌：**奈瑟氏菌腦膜炎感染症尚未痊癒者。除非延後給予 ULTOMIRIS 療法的風險遠大於出現腦膜炎球菌感染的風險，否則禁用於近期內未接種奈瑟氏菌腦膜炎疫苗的病人。**警告及注意事項：**使用 ULTOMIRIS 的病人容易得到嚴重腦膜炎球菌感染 (敗血症及 / 或腦膜炎)；應依據最新的傳染病防治諮詢委員會預防接種組 (ACIP) 建議，接種腦膜炎球菌疫苗。按照 ACIP 建議，針對 ULTOMIRIS 療程時間給病人重新接種疫苗。未曾接種過腦膜炎球菌疫苗之病人，最晚應在接種 2 週後，才給予第一劑 ULTOMIRIS。在接種完腦膜炎球菌疫苗後未滿 2 週時就開始 ULTOMIRIS 治療的病人，必須接受適當的預防性抗生素直到接種疫苗滿 2 週為止。ULTOMIRIS 會阻斷末端補體活化作用，因此病人特別容易受到具有莢膜的細菌感染，如奈瑟氏腦膜炎球菌、肺炎鏈球菌、流行性感冒嗜血桿菌及奈瑟氏淋球菌。在已出現全身性感染的病人使用 ULTOMIRIS 治療時，應密切監測感染惡化的各種徵兆與症狀。未知在 ULTOMIRIS 治療期間停用抗凝血藥物會如何，因此 ULTOMIRIS 治療期間不可改變抗凝血藥物的治療。靜脈輸注 ULTOMIRIS 可能引起全身性輸注相關反應，若出現心血管不穩或呼吸窘差的病徵，就必須停止輸注 ULTOMIRIS 並作適當的支持性醫療處置。**不良反應：**gMG 臨床試驗中 ULTOMIRIS 最常見的不良反應 (≥10%) 是腹瀉與上呼吸道感染，不良反應發生率在 5% 或 5% 以上者有腹瀉、腹痛、上呼吸道感染、尿路感染、背痛、頭暈。20 位 (23%) 接受 ULTOMIRIS 治療的 gMG 病人出現嚴重不良反應，最常見的嚴重不良反應是感染，共有 8 例 (9%) (詳細內容請參見仿單說明)。【使用前請詳閱說明書警語及注意事項，詳細仿單資料備索。】【僅限醫藥專業人員參考；處方藥物請參考衛生福利部核准仿單說明書。】

體重 (公斤)	起始劑量 (mg)	維持劑量 (mg) 與用藥間隔
≧40 到 <60	2,400	3,000	每 8 週
≧60 到 <100	2,700	3,300	
≧100	3,000	3,600	

Abbreviation: gMG = generalized myasthenia gravis; C = complement; AChR = acetylcholine receptor.
Reference: 1. 衛福部 . ULTOMIRIS® 中文仿單。

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Thursday, 19 November 2026		PACTRIMS CONGRESS DAY 1
13:30 -13:35	Welcome Address by the Local Organizing Chairperson	Jen Jen Su (Taiwan)
13:35 -13:40	Opening Address by the President	Ho Jin Kim (Korea)
13:40 -13:45	Special Address by the Guest of Honour	Jen-Hsiang Chuang (Taiwan)
13:55 -15:25	**Plenary 1: Pathogens linked to MS and related disorders**	**Allan Kermode (Australia) & Metha Apiwattanakul (Thailand)**
13:55 -14:20	Update in pathogens for MS and related disorders	Eleonora Cocco (Italy)
14:20 -14:45	EBV and MS: A Perfect Storm of Genetics and Immunity	Sasitorn Siritho (Thailand)
14:45 -15:10	Translating the EBV–MS link into clinical innovation	Rajiv Khanna (Australia)
15:10 -15:25	Q&A	
15:25 -15:55	**Coffee Break (Meet The Expert 1 & Poster Viewing Session 1)**	**Expert: Kazuo Fujihara (Japan) & Noriko Isobe (Japan)**
15:55 -16:55	**Tanabe Pharma Sponsored Symposium** B cells in NMOSD: From Pathogenesis to Clinical Trials and Real-World Practice	Koji Shinoda (Japan) & Jen Jen Su (Taiwan)
17:10 -18:10	**ORAL PRESENTATION PART ONE- 5 presentations**	**Jen Jen Su (Taiwan) & Sung-Min Kim (Korea)**
19:00 -21:00	**Welcome Reception**	



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Friday, 20 November 2026		PACTRIMS CONGRESS DAY 2
08:00 -09:00	**Alexion Pharma Sponsored Symposium**	
	Complement Component 5 Inhibitor Therapies in NMOSD: Clinical Insights, Real-World Evidence, and Considerations for Family Planning	Jin Nakahara (Japan)
	1. Beyond Relapse Reduction: Optimizing Therapeutic Strategies to Address Unmet Needs	Tianrong Yeo (Singapore)
	2. Real-World Evidence: Evaluating Safety and Effectiveness of C5ITs	Elias Sotirchos (USA)
	3. Japan RWE and Family Planning	Jin Nakahara (Japan)
09:00 -09:15	**Coffee Break**	
09:15 -10:45	**Plenary 2: Current clinical trials in MS and related disorders**	**Jin Nakahara (Japan) & Todd Hardy (Australia)**
09:15 -09:40	BTK inhibitors in multiple sclerosis	Kuo-Hsuan Chang (Taiwan)
09:40 -10:05	Where we are in clinical trials?; future direction for clinical trial structures	Simon Broadley (Australia)
10:05 -10:30	Current and Future treatment strategies for MOG antibody-associated disease (MOGAD)	Michael Levy (US)
10:30 -10:45	Q&A	
10:45 -11:05	**Coffee Break (Poster Viewing Session 2)**	
11:05 -12:05	**ORAL PRESENTATION PART TWO- 5 presentations**	**Tianrong Yeo (Singapore) & Sasitorn Siritho (Thailand)**
12:20 -13:35	**Chugai Pharma Sponsored Symposium (with lunch provided)**	
	NMOSD and MS: Current Updates in Science and Clinical Practice	Jin Nakahara (Japan) Yoshiki Takai (Japan) Koji Shinoda (Japan) Ho Jin Kim (Korea)
13:50 -14:50	**Plenary 3: Clinical Diversity as Evidence: Case Series Across Regions and Therapeutic Landscapes**	**Jennifer Massey (Australia) & Jyh Yung Hor (Malaysia)**
13:50 -14:05	Tumefactive Disease in the Elderly	Narendra Pulukuri (India)
14:05 -14:20	Visual worsening without relapse in NMOSD	Young Nam Kwon (Korea)
14:20 -14:35	Fulminant double seronegative NMOSD	Kyoka Fujii (Japan)
14:35 -14:50	Pediatric-Onset Multiple Sclerosis in the Philippines	Jon Dy (Philippines)
14:50 -15:15	**Coffee Break (Meet The Expert 2 & Poster Viewing Session 3)**	**Expert: Helmut Butzkueven (Australia) & Noriko Isobe (Japan)**
15:15 -16:45	**Plenary 4: Access to health care, promoting brain health, and community and political engagement**	**Lekha Pandit (India) & Kevin Tan (Singapore)**
15:15 -15:40	Personalised Medicine: the importance of community engagement in Neuroimmunology	Anne Bruestle (Australia)
15:40 -16:05	Global Perspectives on MS: Access to Care and Treatment	Deanna R. Saylor (US)
16:05 -16:30	Current Status of Neuroimmunological Disease Care in Japan	Ichiro Nakashima (Japan)
16:30 -16:45	Q&A	
17:00 -18:10	**Poster Presentation**	**3 mins presentation/2 mins Q&A x ~10 booths**



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Saturday, 21 November 2026 — PACTRIMS CONGRESS DAY 3

10:20 -11:50	**Plenary 5: Monitoring and measurement of MS progression and others**	**Helmut Butzkueven (Australia) & Joyce Joseph (Malaysia)**
10:20 -10:45	Disease progression and aging in MS	Jeannette Lechner-Scott (Australia)
10:45 -11:10	Biomarker Monitoring in NMOSD and MOGAD	Jae-Won Hyun (Korea)
11:10 -11:35	Monitoring and Management of Pregnancy in MS and NMOSD	Yuko Shimizu (Japan)
11:35 -11:50	Q&A	
11:50 -12:10	**Closing and Award Ceremony**	
11:50 -12:05	Poster Award ceremony (with photo sessions)	All ExCos and Noriko Isobe (Japan)
12:05 -12:10	Closing Remarks by the Vice-President	Allan Kermode (Australia)



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選択肢をつくる。
希望をつくる。

なんでも選べるこの時代に、
まだ選択肢が足りない世界があります。
そこでは、たったひとつの選択肢が生まれることが、
たくさんの希望につながります。
だから、田辺ファーマはつくります。

病と向き合うすべての人に、希望ある選択肢を。

この国でいちばん長く培ってきた
薬づくりの力を生かして、
さまざまな分野で、挑みつづけていきます。
そこに待っている人がいるかぎり。



田辺ファーマ

PLENARY ORAL PRESENTATION - 1
Epidemiology, Genetics, and Epigenetics

O-1

Negative reversion of AQP4-IgG and reduced relapse risk in Neuromyelitis Optica Spectrum Disorder

Dong Seok Ohn[1], Seung Woo Kim[2], Ha Young Shin[2], Sun-Young Oh[3], Hung Youl Seok[4], Dayoung Seo[5], Hyunjin Kim[5], Young-Min Lim[5], Eun-Jae Lee[5], Namjin Heo[6], Seung Ho Choo[6], Ju-Hong Min[6], You-Ri Kang[7], Tai-Seung Nam[7], Seong-il Oh[8], Jeeyoung Oh[9], Sooyoung Kim[10], Eunhee Sohn[10], Kyong Jin Shin[11], Jong Kuk Kim[12], Byeol A Yoon[12], Jin Myoung Seok[13], Myoung-jin Jang[14], Young Nam Kwon[15], Patrick Waters[16], Sung Min Kim[1]

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Background: Aquaporin-4 immunoglobulin G (AQP4-IgG) positivity with core clinical characteristics supports a diagnosis of neuromyelitis optica spectrum disorders (NMOSD) with AQP4-IgG. Although negative reversion of this disease specific biomarker can occasionally be found in clinical practice, its implication is still unclear.

Objective: To investigate whether the negative reversion of AQP4-IgG can be a marker of reduced disease activity in NMOSD with AQP4-IgG.

Methods: This nationwide retrospective multicentre cohort study was conducted at 13 tertiary referral hospitals in South Korea between January 2006 and August 2025. The study included 465 consecutive patients with AQP4-IgG–positive NMOSD who underwent longitudinal AQP4-IgG assays, with a mean of 4.2 assays per patient and 1,925 total assays. Patients were categorized based on the presence or absence of negative reversion of AQP4-IgG. The main outcomes were clinical, and treatment factors associated with relapse, relapse risk in the negative reversion and persistent positive groups, and the prognostic impact of sustained reversion and positive reconversion.

Results: Among 465 patients, 131 (28.2%) experienced negative reversion of AQP4-IgG during a median follow-up of 8.7 [IQR, 5.3–12.6] years. These patients showed a 73% lower risk of relapse (aHR, 0.27; 95% CI, 0.17–0.43; p<.001) than those who remained positive. Among the reversion group, 100 patients (76.3%) underwent further follow-up assays after negative reversion, of whom 59 (59.0%) remained negative (sustained reversion group; median follow-up, 3.5 [IQR, 1.8–5.0] years; mean number of assays after reversion, 3.5 assays), while 41 (41.0%) reconverted to positive (positive reconversion group; 3.9 [2.6–5.8] years; 4.8 assays). Sustained reversion was associated with a 79% reduced risk of relapse (95% CI, 0.09–0.49; p<.001), and positive reconversion with a 54% reduced risk (95% CI, 0.24–0.88; p=.02), compared with persistent positive.

Conclusion: Our finding suggests that negative reversion of AQP4-IgG may serve as a prognostic indicator of a reduced relapse risk, particularly when reversion persists over time, underscoring the clinical utility of longitudinal AQP4-IgG assays.

Disclosures: YNK received a grant from the National Research Foundation of Korea, Eisai, and Korean Neurological Association; lectured, consulted, and received honoraria from Celltrion, Eisai, GC Pharma, Merck Serono, Roche, Sanofi Genzyme and CorestemChemon. JHM is funded by and has received research support from the National Research Foundation of Korea (MIST and KHIDI) and SMC Research and Development Grant. He has lectured, consulted and received honoraria from Bayer Healthcare, Merk, Biogen Idec, Sanofi, UCB, Samsung Bioepis, Mitsubishi Tanabe, Celltrion, Roche, Janssen, and AstraZeneca. PW is a named inventor on patents for antibody assays (WO/2010/046716) with royalties paid by Euroimmun AG and disease biomarker patents (WO2019211633A1, WO2022189788A1). He has received honoraria from Biogen Idec, Mereo Biopharma, Retrogenix, UBC, Euroimmun AG, UCB, F. Hoffmann La-Roche, Forum for Indian Neurology Education (FINE) and Alexion; travel grants from the Guthy-Jackson Charitable Foundation; and research funding from Euroimmun AG and the Guthy-Jackson Charitable Foundation. His work in the Oxford Autoimmune Neurology Diagnostic Laboratory is partly supported by the NHS Commissioning service for NMOSD. He serves on the editorial boards of Neurology, Neuroimmunology & Neuroinflammation and the Journal of Clinical Neurology. SMK has lectured, consulted, and received honoraria from Bayer Schering Pharma, Genzyme, Merck Serono, and UCB; received a grant from the National Research Foundation of Korea and the Korea Health Industry Development Institute Research; is an Associate Editor of the Journal of Clinical Neurology. SMK and Seoul National University Hospital has transferred the technology of flow cytometric autoantibody assay to EONE Laboratory, Korea. Drs. DSO have no financial disclosures to report.

O-2

Efficacy and Safety of Remibrutinib vs Teriflunomide in Relapsing Multiple Sclerosis: Results of the Phase 3 REMODEL-1/-2 Trials

Jin Nakahara[1], Heinz Wiendl[2], Robert Bermel[3], Laura Airas[4], Tanuja Chitnis[5], Mitzi Williams[6], Monika Adamczyk-Sowa[7], Karolina Piasecka-Stryczynska[8], Ronald Zielman[9], Sinead Dunphy[10], Nicolas Panchaud[9], Min Cai[11], Jing Xi[11], Brett Loop[12], Wendy Su[13], Roman Willi[9], Xavier Montalban[14]

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Background: Remibrutinib is a highly selective and potent, covalent, CNS–penetrant, oral Bruton's tyrosine kinase (BTK) inhibitor with a promising pharmacological and safety profile. REMODEL-1 (NCT05147220) and REMODEL-2 (NCT05156281) are identically designed, registrational phase 3 trials evaluating remibrutinib in the treatment of relapsing MS (RMS) in adults.

Objective: To report the efficacy and safety of remibrutinib compared with teriflunomide in adults with RMS.

Methods: REMODEL-1/-2 are randomised, double-blind, double-dummy, active comparator–controlled, parallel-group, event-driven, multicentre trials. The studies consist of a double-blind core part with a flexible duration, followed by an open-label extension part for up to 5 years. The adaptive, event-driven design allows the blinded core part to end once prespecified criteria are met, to ensure adequate power for the primary analysis. People with RMS aged 18 to 55 years with an Expanded Disability Status Scale score of 0 to 5.5 and evidence of disease activity (≥1 relapse in the prior year, ≥2 relapses in the prior 2 years, or ≥1 gadolinium-enhancing lesion in the prior year) were randomised 1:1 to either remibrutinib or teriflunomide.

The primary endpoint is the annualised relapse rate (ARR); secondary endpoints include, among others, measures of disability, MRI–related outcomes, and safety.

Results: REMODEL-1/-2 have completed recruitment, with 2007 patients randomised across 46 countries (REMODEL-1, N=1000; REMODEL-2, N=1007). The prespecified primary analysis will report the ARR with remibrutinib vs teriflunomide, alongside key secondary endpoints, including 3- and 6-month confirmed disability progression, new/enlarging T2 and gadolinium-enhancing T1 MRI lesions, serum neurofilament light chain, and No Evidence of Disease Activity (NEDA-3). Key safety outcomes will include hepatic safety, infections, and other safety topics of interest. Primary efficacy and safety findings from REMODEL-1/-2 will be presented at the congress.

Conclusion: The results of the pivotal phase 3 REMODEL trials will inform the therapeutic potential of remibrutinib in RMS.

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O-3

Multimodal Profiling Reveals Clinicobiological Heterogeneity of Double-Seronegative CNS Demyelinating Disorders: An Integrated Machine Learning and Biomarker Study

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Background: Double-seronegative (DSN) inflammatory demyelinating disorders remain one of the least understood groups in neuroimmunology, overlapping clinically with multiple sclerosis (MS), MOG antibody-associated disease (MOGAD) and AQP4-IgG-positive neuromyelitis optica spectrum disorder (NMOSD). Whether DSN represents a distinct disease or a biologically heterogeneous spectrum remains uncertain.

Objective: To define the clinicobiological position of DSN using integrated clinical, MRI, optical coherence tomography (OCT), cerebrospinal fluid (CSF) biomarkers and machine-learning approaches.

Methods: We studied 516 patients (MS=200, DSN=149, MOGAD=106, AQP4-NMOSD=61) from a prospectively maintained registry. Clinical, radiological and OCT features were analysed using principal component analysis (PCA) and supervised machine-learning models. CSF GFAP, neurofilament light chain (NfL), tau and UCHL1 were quantified using SIMOA (single molecule array) in 105 patients. Multimodal feature combinations were evaluated for disease discrimination and biological clustering.
Results: Across independent PCA and machine-learning analyses, MS consistently segregated from antibody-associated disorders, driven predominantly by characteristic brain MRI features. In contrast, DSN failed to form an independent cluster and instead overlapped extensively with AQP4-NMOSD and MOGAD. Incorporation of OCT substantially improved separation of antibody-associated disorders, with retinal layer measures emerging as major contributors to disease discrimination. CSF GFAP, tau and UCHL1 differed significantly between diagnostic groups, whereas NfL did not. Importantly, DSN demonstrated the widest biomarker dispersion across all analytes, supporting marked biological heterogeneity beyond conventional serological classification. Multimodal integration achieved the highest classification performance, particularly within antibody-associated disorders where conventional clinical features alone showed substantial overlap.
Conclusion: This multimodal study demonstrates that DSN is not a discrete disease entity but a biologically heterogeneous spectrum positioned between established antibody-associated demyelinating disorders. Integrating OCT and ultrasensitive CSF biomarkers with conventional clinico-radiological assessment provides complementary information beyond serology and may facilitate biologically informed classification
Disclosures: none

O-4
Iguratimod Blocks Th17 Migration Through Inhibiting Integrin β3 on CNS Vascular Endothelial Cells
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Background: We previously reported the efficacy of iguratimod (IGU), an anti-rheumatic drug, on Experimental Autoimmune Encephalomyelitis (EAE) model.
Objective: We aimed to elucidate the effects of IGU on blood-brain barrier (BBB) in EAE.
Methods: After conventional EAE was induced, IGU or methylcellulose (MC) was administered until the EAE peak. Immunofluorescence staining and western blotting (WB) were performed at EAE peak. For the migration assay, primary brain endothelial cell (BEC) cultures were prepared from WT mice. BECs seeded in the upper transwell chambers were stimulated by IL-1β and treated with either IGU (IGU-t) or MC (MC-t). Then CD4+ T cells from EAE mice were loaded in the upper chamber and CCL21 was added in the lower chamber. After incubation, migrated T cells were counted. Microarray analyses were performed using BECs treated with IGU or MC.
Results: EAE scores were markedly attenuated ($p<0.05$) and EAE onset was delayed in IGU-treated mice compared to MC-treated mice (13.7 vs 11.6 dpi). Compared to MC-t, IGU-t showed marked reduction in demyelination ($p<0.05$), integrin β3 (ITGB3) expression ($p<0.05$),

and Th17 cell infiltration ($p<0.05$) in spinal cord and demonstrated reduced Th17 migration in the static migration assay ($p<0.05$). IGU-t showed significant downregulation of ITGB3, which is reported to be associated with Th17 migration, in microarray analysis, and marked reduction in ITGB3 expression in BECs, compared to MC-t ($p<0.05$).
Conclusion: IGU suppressed Th17 migration through a direct effect on BECs, resulting in delayed EAE onset and attenuating disease severity.
Disclosures: No

Epidemiology, Genetics, and Epigenetics

O-5
Frequency and Characteristics of Cerebral Cortical Encephalitis in Adult-onset Asian MOGAD
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Background: Cerebral cortical encephalitis (CCE) is recognized as a core clinical demyelinating event in the 2023 diagnostic criteria for myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD), but its frequency across different ethnicities remains unknown.

Objective: To investigate the frequency and characteristics of CCE in Asian individuals with adult-onset MOGAD.

Methods: We conducted an international multicentre retrospective study across 15 centres in 8 Asian countries. Asian individuals with adult-onset MOGAD fulfilling the 2023 diagnostic criteria were included. CCE frequency was analyzed according to geographic region and ethnicity, categorized independently of nationality in multiethnic countries.

Results: Among 728 individuals with adult-onset MOGAD, 73 (10.0%) had CCE. CCE was markedly more frequent in East Asian individuals than in those of South and Southeast Asian ethnicity (14.6% vs. 1.2%, $p < 0.001$). CCE usually occurred as the initial MOGAD manifestation (62/73, 84.9%) and most commonly presented with seizures (52/73, 71.2%). MRI frequently showed unilateral cortical involvement (50/73, 68.5%) and leptomeningeal enhancement (44/70, 62.9%). Follow-up MRI showed complete or partial lesion resolution in 58/62 individuals (93.5%). During a median disease duration of 3 years, subsequent demyelinating relapses and recurrent CCE occurred in 37.0% and 20.5%, respectively.

Conclusion: CCE occurred in approximately one-tenth of Asian individuals with adult-onset MOGAD, with a substantial ethnic difference in frequency across Asian populations.

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PLENARY ORAL PRESENTATION - 2
Neuroimaging and Neurophysiology

O-6
Validation of the 2024 McDonald Criteria for Multiple Sclerosis: Improved Diagnostic Accuracy and Earlier Diagnosis in a Large Thai Cohort

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Background: Multiple sclerosis (MS) is less common in Asian populations compared to White populations, whereas AQP4 IgG+ NMOSD are more prevalent. The diagnostic performance of the revised 2024 McDonald criteria for MS in this underrepresented population is unknown.
Objective: To evaluate the diagnostic performance of the 2024 McDonald criteria for MS in a Thai cohort, and to compare diagnostic performance and time to diagnosis between the 2017 and 2024 McDonald criteria.
Methods: We retrospectively identified patients with typical clinically isolated syndromes between January 2015 and February 2025. All underwent baseline brain MRI and had ≥1 year of follow-up. The 2017 and 2024 McDonald criteria were applied retrospectively using data from initial evaluation. Final diagnoses were determined by expert consensus at last follow-up based on clinical course, ancillary investigations, and treatment response, with diagnostic criteria used as supportive tools. We assessed diagnostic performance of the 2024 criteria using the final diagnosis as the reference standard, compared performance between criteria using McNemar's test, and evaluated time to diagnosis using Kaplan–Meier and log-rank tests.

Results: A total of 406 patients were included (332 [79.3%] female; mean [SD] age at onset, 36.3 [13.7] years). Initial presentations were myelitis (56.4%), infratentorial syndrome (28.3%), and optic neuritis (27.8%). Central vein sign and paramagnetic rim lesion assessments were available in 174 (42.9%) and 108 (26.6%) patients, respectively. Serum AQP4-IgG was tested in 366 (90.1%) patients. Median follow-up was 7.2 years (IQR, 3.1–12.8). Final diagnoses were MS (210 [51.7%]), AQP4-IgG+ NMOSD (88 [21.7%]), MOGAD (6 [1.5%]), and idiopathic syndromes (102 [25.1%]; 72 monophasic, 30 recurrent). The 2024 McDonald criteria showed higher sensitivity (89.4% vs 74.4%), accuracy (90.8% vs 84.6%), and lower specificity (92.3% vs 95.4%) than the 2017 criteria (all $p \leq 0.041$). Median time to diagnosis was shorter with the 2024 criteria (5.6 vs 7.0 months; $p=0.01$).
Conclusion: The 2024 McDonald criteria improve diagnostic performance and enable earlier diagnosis of MS, supporting their applicability in Asian populations.
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Disease Modifying Therapies

O-7
Age and Risk of Relapse-Associated Worsening in Multiple Sclerosis

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Background: To determine whether increasing age is associated with a higher risk of relapse-associated worsening after the first recorded relapse in people with MS.
Objective: To determine whether increasing age is associated with a higher risk of relapse-associated worsening (RAW) following relapse in people with multiple sclerosis.
Methods: Using data from the MSBase registry, this multicentre cohort study included pwMS with a recorded relapse and adequate baseline and follow-up expanded disability status scale (EDSS) scores. The primary outcome was RAW, and secondary outcomes were functional system (FS) score worsening. Mixed-effects logistic regression models with random intercept for country were used, with fixed effects for age, sex, disease duration, baseline EDSS, corticosteroid treatment and DMT class.
Results: 5,782 pwMS were included, of whom 1,164, 1,965 and 1,828 had adequate follow-up for RAW assessment at 3, 6 and 12 months respectively. Spline modelling demonstrated a non-linear relationship between age and RAW, with a disproportionate dose-response increase in risk beyond 50 years. Compared with pwMS aged ≥50, all younger age groups had significantly lower odds of RAW at 6 months: ≤30 years (OR 0.47, 95% CI 0.29–0.75), 31–40 years (OR 0.42, 0.27–0.67), and 41–50 years (OR 0.53, 0.34–0.85). Findings were consistent at 3 and 12 months. Baseline EDSS was inversely associated with RAW at all timepoints (OR 0.77, 95% CI 0.70–0.85). Corticosteroid treatment was associated with reduced RAW at 6 months (OR 0.67, 95% CI 0.50–0.91), with no significant interaction between steroid use and

age. Age was modestly associated with FS worsening at 6 and 12 months (OR 1.16–1.17 per decade).

Conclusion: Increasing age is associated with a marked non-linear increase in risk of RAW after first relapse in MS. Given that each relapse carries a disproportionately higher risk of persistent disability in older pwMS, these findings challenge the assumption that relapse prevention becomes less relevant with age, and support individualised benefit-risk reassessment of DMT use.

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Advances in Technology in Diagnosis and Care

O-8

Positive Predictive Value of Low versus Clear Positive Myelin Oligodendrocyte Glycoprotein Antibody Testing by Commercial Fixed Cell-Based Assay in Singaporean Adults and Children

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Background: The 2023 international MOGAD criteria stratify MOG-IgG results into low-positive (≥1:10, <1:100) and clear-positive (≥1:100) according to titres, with low-positive results requiring supporting clinical or MRI features. Positive predictive value (PPV) data for fixed cell-based assays (fCBA) are limited, and combined adult–paediatric cohorts are scarce.
Objective: (1) To determine the PPV of low- and clear-positive MOG-IgG on fCBA in a combined adult–paediatric Singaporean cohort; (2) to assess the effect of sampling interval from symptom onset and steroid initiation on low and clear-positive results; (3) to measure agreement between clinician diagnosis and the 2023 criteria; and (4) to describe patients negative on fCBA but positive on external live CBA.
Methods: Retrospective chart review was done for all patients with a first positive serum MOG-IgG on fCBA performed by the Neuroscience Clinical Laboratory at the National Neuroscience Institute, Singapore (1 January 2018 – 30 June 2026). Patients negative on fCBA but positive on external live CBA were also reviewed. Results were classified as low- (titre ≥1:10, <1:100) or clear-positive (titre ≥1:100) per the 2023 criteria. Pre-2023 samples were restained at 1:100 to permit titre stratification. Each result was classified true- or false-positive using current international recommendations, requiring a core clinical demyelinating event and exclusion of alternative diagnoses. Classification for adult cases was performed by a neuroimmunology fellow (KXG), with cases of diagnostic uncertainty referred to a senior neuroimmunologist (TY) for consensus. Paediatric patients (<18 years old) were reviewed and classified by a paediatric neurologist (TT). PPV was calculated with Wilson score intervals and compared by Fisher exact test. Intervals from symptom onset and from steroid initiation to specimen collection were calculated as completed calendar days and compared by Mann–Whitney U test and, dichotomised at 30 days, by Fisher exact test. Agreement between clinician diagnosis and the 2023 criteria was assessed using Cohen kappa.
Results: Of 174 samples (145 adults, 29 children), 153 were analysed: 145 fCBA-positive (77 clear, 68 low), 8 fCBA-negative/external-positive. Overall PPV was 92.4% (95% CI 86.9–95.7), 100% for clear and 83.8% (73.3–90.7) for low titres ($p<0.001$). All 11 false positives were low-positive. PPV was similar in children (88.9%) and adults (93.2%, $p=0.43$). Low-positive samples were taken later after symptom onset (median 9 vs 5 days in clear, $p=0.047$), exceeding 30 days in 19.3% of low vs 3.9% of clear ($p=0.008$). Of 56 post-steroid samples, 22.2% (low) vs 3.4% (clear) exceeded 30 days post-steroid ($p=0.048$). Clinician diagnosis and 2023 criteria agreement was high (93.5%, kappa 0.69), though lower in children (81.5%, kappa 0.46). All 10 discordant cases were clinician-diagnosed MOGAD not meeting 2023 criteria: 5 adults with low titres and a core event but no supporting feature, and 5 children with meningitis outside 2023 criteria. Six of 8 external-positive/fCBA-negative samples were true-positive.

Conclusion: fCBA MOG-IgG showed high PPV in our Singaporean cohort, with clear-positive results specific for MOGAD. All false positives were low-positive. PPV was comparable in children and adults, likely reflecting high pre-test probability. Delayed sampling relative to onset and steroid initiation was associated with low-positive results. The 2023 criteria may under-recognise paediatric MOGAD meningitis.
Disclosures: None.

O-9

Predicting Responsiveness to Pulsed Steroid Therapies in Anti-AQP4 Antibody-Positive Neuromyelitis Optica Spectrum Disorder

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Background: High-dose intravenous pulsed corticosteroids are the first-line intervention for acute relapses in anti-aquaporin-4 antibody-positive (anti-AQP4+) neuromyelitis optica spectrum disorder (NMOSD). However, variable steroid response and delayed escalation to rescue therapies such as therapeutic plasmapheresis can result in irreversible neurological disability.
Objective: In this study, we aimed to identify key clinical determinants of steroid response and develop a predictive machine learning model to forecast short-term steroid responsiveness during acute relapses.
Methods: We retrospectively evaluated acute attack episodes in anti-AQP4+ NMOSD patients from a longitudinal hospital database (2006-2025). Eligible episodes presented with acute neurological deficits and active gadolinium-enhancing lesions on magnetic resonance imaging requiring pulsed steroid therapies. Responders were defined as patients achieving an Expanded Disability Status Scale (EDSS) improvement > 1 point at Day 28 post-steroid therapy relative to the relapse nadir. Clinical, laboratory, and imaging predictors were identified using univariate analysis. Furthermore, an Extreme Gradient Boosting (XGBoost) model was developed and validated across 50 repeated cross-validation folds to predict responsiveness and calculate feature importance.
Results: This analysis included 390 acute relapses from 178 AQP4-IgG+ NMOSD patients (125 responder episodes in 71 patients; 265 non-responder episodes in 107 patients). Compared with responders, non-responders were more likely to present with focal weakness (OR, 2.13; 95% CI, 1.39–3.36) and numbness (OR, 1.61; 95% CI, 1.03–2.50) and exhibited higher mean corpuscular volume (MCV; OR, 1.05; 95% CI, 1.02–1.08) and higher serum creatinine levels (OR, 4.00; 95% CI, 1.25–14.29). By contrast, non-responders were less likely to have lower red cell distribution width (OR, 0.88; 95% CI, 0.79–0.97), and lower platelet counts (OR, 0.99; 95% CI, 0.99–1.00). The XGBoost model demonstrated good performance with a mean AUROC of 0.722 (95% CI: 0.628–0.817). The top five predictive features were baseline EDSS, platelet count, MCV, red blood cell count, and serum creatinine.
Conclusion: Steroid responsiveness in anti-AQP4+ NMOSD relapses depends on baseline neurological burden, metabolic state, and haematology. Machine learning enables early risk stratification, guiding prompt escalation to plasmapheresis in high-risk patients to prevent disability accumulation. Multi-center prospective validation is needed to refine decision thresholds.
Disclosures: No

Patient Reported Outcomes and Programs that Support Quality of Life

O-10
Association of Regular Exercise With Quality of Life, Fatigue, Sleep, Mood, and Cognitive Performance in Multiple Sclerosis

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Background: Lifestyle factors may influence patient-reported outcomes and cognitive functioning in people with multiple sclerosis (MS), even when conventional disability measures remain unchanged.
Objective: To evaluate the association between exercise frequency and depression, daytime sleepiness, quality of life, sleep quality, fatigue, cognitive performance, relapse occurrence, and recent MS symptoms.
Methods: A total of 353 patients with MS were evaluated. Mean age was 37.2±11.0 years, 72.5% were women, 93.5% had relapsing-remitting MS, and mean Expanded Disability Status Scale (EDSS) score was 0.9±1.5. Participants were classified as exercising very frequently/frequently (n=245) or rarely/never (n=108). Outcomes included the Beck Depression Inventory (BDI), Epworth Sleepiness Scale (ESS), Multiple Sclerosis International Quality of Life questionnaire (MusiQoL), Pittsburgh Sleep Quality Index (PSQI), Symbol Digit Modalities Test (SDMT), and Fatigue Severity Scale (FSS).
Results: Compared with patients exercising rarely or never, those exercising very frequently or frequently had lower BDI (10.97±8.93 vs 13.75±10.49; p=0.020), ESS (5.55±4.41 vs 6.85±5.28; p=0.036), PSQI (5.78±3.45 vs 6.80±3.42; p=0.005), and FSS scores (4.01±1.79 vs 4.68±1.67; p=0.001). They also had higher MusiQoL (61.94±9.88 vs 59.52±10.26; p=0.038) and SDMT scores (47.03±12.74 vs 43.19±15.95; p=0.047). Exercise frequency was not associated with EDSS (p=0.620), relapse occurrence during the previous year (20.4% vs 16.7%; p=0.466), or MS symptoms during the previous six months (40.8% vs 37.1%; p=0.556).
Conclusion: Frequent exercise was associated with better quality of life, mood, sleep, fatigue, and cognitive performance despite no detectable difference in disability or recent disease activity. These findings highlight the potential value of regular physical activity as part of comprehensive MS care.
Disclosures: No conflict of interest

POSTER SESSION - 1
Epidemiology, Genetics, and Epigenetics

P-1
Stable Incidence of AQP4-antibody NMOSD in Singapore Before and After the COVID-19 Pandemic

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Background: Case reports have described temporal association of new-onset Aquaporin-4-antibody Neuromyelitis Optica Spectrum Disorder (AQP4-Ab NMOSD) following SARS-CoV-2 infection and vaccination. However, such observations are inherently limited by reporting bias and variable latency intervals. Consequently, whether COVID-19 has had any epidemiological effect on AQP4-Ab NMOSD remains unknown.
Objective: To date, no population-based studies have been performed to investigate AQP4-Ab NMOSD incidence during the COVID-19 pandemic. We hypothesised that if COVID-19 can trigger AQP4-Ab NMOSD, this would be reflected as an increase in the frequency of seropositive tests during the COVID-19 pandemic. We therefore examined the incidence of positive AQP4-Ab tests before and after the onset of the pandemic.
Methods: A total of 3,639 samples from local hospitals were tested for AQP4-Ab using cell-based assays from January 2012 to December 2025 at the National Neuroscience Institute, Singapore. All tests were performed according to the manufacturer's instructions by experienced medical laboratory scientists and read by neurologists with expertise in cell-based assay interpretation. Annual positivity rates were calculated as the percentage of positive AQP4-Ab tests over the total number of tests performed each year. Annual incidence rates were computed by dividing the total number of positive AQP4-Ab tests by 75% of the total population in Singapore (as NNI receives samples from approximately three-quarters of the populace) for each year. To trend the total number of tests, positive tests, and positivity rates, Poisson regression was performed. 95% CI using Poisson distribution were calculated using exact methods based on chi-squared distribution, and the annual incidence was trended using Poisson regression. Statistical comparison of cumulative incidence between the pre-pandemic period (2012-2019) and the post-pandemic period (2020-2025) was performed using Poisson regression with a binary pandemic indicator as the predictor and the natural log of 75% population as an offset term with a logarithm link function.
Results: The number of positive tests per annum was stable ($p=1.000$ for trend), ranging from 18 to 26, with an average of 21.8 positive tests. The number of tests performed annually increased over time ($p<0.0001$ for trend); the lowest was 135 in 2012, with a sharp increase year-on-year from 2021, peaking at 450 tests in 2024. This corresponded to a decrease in the annual positivity rate over time ($p<0.0001$ for trend); this was highest in 2013 at 16.3% and lowest in 2023 at 4.5%. No distinct trend was observed in the annual incidence of positive AQP4-Ab tests from 2012 to 2025 ($p=0.554$ for trend); this ranged from 4.06 to 6.34 per million person-years. The cumulative incidence over the study period was 5.16 per million person-years (95% CI 4.60–5.77), with no significant difference in the cumulative incidence before and during COVID-19 (pre-pandemic incidence 5.30 per million person-years [95% CI, 4.55–6.14]; pandemic incidence 4.97 per million person-years [95% CI, 4.16–5.91]; $p=0.584$).
Conclusion: In conclusion, we provide epidemiological evidence that SARS CoV 2–related immune activation has not translated into measurable changes in NMOSD incidence. Our findings also by extension support the safe, continued use of COVID 19 vaccination in NMOSD patients, particularly those receiving anti CD20 therapies which are associated with earlier infections even in vaccinated individuals.
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P-2

Negative reversion of AQP4-IgG and reduced relapse risk in Neuromyelitis Optica Spectrum Disorder

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Refer to O-1 in Plenary Oral Presentation – 1

P-3

Withdrawn

P-4

Withdrawn

P-5

Prevalence Of FCGR3A Polymorphisms And Their Effect On B-cell Repopulation Characteristics In Patients With Central Nervous System Inflammatory Disorders On Anti-CD20 Therapies

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Background: Anti-CD20 monoclonal antibodies such as rituximab and ocrelizumab are effective in treating central nervous system inflammatory disorders such as multiple sclerosis and neuromyelitis optica spectrum disorder. However, substantial inter-individual variability exists in B-cell depletion efficacy. The FCGR3A-V158F polymorphism is hypothesised to influence B-cell repopulation characteristics.

Objective: The primary objective was to investigate the association between FCGR3A-V158F genotypes and B-cell repopulation characteristics among patients during anti-CD20 maintenance dosing. The secondary objective was to explore whether other clinical and demographic variables (age, sex, race, body mass index, body surface area, and prior immunosuppression) influenced B-cell repopulation characteristics.

Methods: This prospective observational cohort study recruited 90 patients receiving a standardised anti-CD20 treatment regimen at the National Neuroscience Institute, Singapore. Patients treated with rituximab or ocrelizumab underwent FCGR3A-V158F genotyping. Demographic and clinical variables collected included age, sex, race, body mass index (BMI), body surface area (BSA), prior immunosuppression, diagnosis, type of anti-CD20 therapy, and serial peripheral blood CD19+ B-cell counts. B-cell depletion was defined as an absolute CD19+ count <10 cells/μL and B-cell repopulation as ≥10 cells/μL. For survival analyses, only B-cell measurements obtained more than 24 weeks or less than 28 weeks after the preceding anti-CD20 infusion were included to account for the standardised maintenance dosing interval. Patients with disrupted dosing schedules, substantial deviations from protocol-specified dosing, or insufficient follow-up were censored or excluded according to predefined criteria. Univariate and multivariable Cox proportional-hazards regression analyses were performed to evaluate the associations between FCGR3A genotypes and different independent variables of interest with time to B-cell repopulation. Time to B-cell repopulation was also analysed using Kaplan-Meier survival curves and compared using the log-rank test.

Results: Seventy-one patients were included in the final analysis (35.2% F/F, 46.5% V/F, 18.3% V/V). Thirty-one patients (43.7%) experienced B-cell repopulation, with a median time to repopulation of 106 weeks. Repopulation rates appeared to be higher in patients with the F/F genotype (56.0%) compared with those with the V/F (39.4%) and V/V (30.8%) genotypes; however, neither Cox regression nor Kaplan-Meier analysis demonstrated statistically significant differences between genotypes. Univariate Cox regression showed that higher BMI ($p = 0.007$) and higher BSA ($p = 0.041$) were associated with earlier B-cell repopulation. These associations remained significant after adjustment for FCGR3A genotype in multivariable analyses. Receiver operating characteristic analysis identified thresholds of 30.15 kg/m² for BMI and 1.805 m² for BSA, with Kaplan-Meier analysis confirming significant differences in

time to repopulation between the resulting groups (log-rank $p < 0.001$ for BMI and $p = 0.006$, for BSA).
Conclusion: FCGR3A-V158F genotype was not significantly associated with B-cell repopulation during anti-CD20 maintenance therapy. In contrast, higher BMI and BSA were predictive of earlier B-cell repopulation, suggesting that these clinical parameters may be more relevant for optimising anti-CD20 dosing strategies.
Disclosures: None.

P-6
Validation Of The 2024 McDonald Criteria For Multiple Sclerosis In a Taiwanese Cohort
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Background: The 2024 McDonald criteria introduce revised recommendations for the diagnosis of multiple sclerosis (MS) to enable earlier diagnostic confirmation.
Objective: We evaluated the application and performance of the 2010, 2017, and 2024 McDonald criteria in a Taiwanese cohort of patients with MS, with a particular focus on differences in diagnostic timing and diagnostic performance.
Methods: We retrospectively identified consecutive patients referred for suspected central nervous system demyelinating disease between 2000 and 2026 who had a minimum follow-up of 6 months. The 2010, 2017, and 2024 McDonald criteria were applied retrospectively to clinical and MRI data. Time to diagnosis was compared across the three versions of the McDonald criteria. Diagnostic performance, including sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV), was evaluated for the 2017 and 2024 criteria using the diagnosis established according to the 2010 McDonald criteria as the reference standard.
Results: The study cohort comprised 125 patients with suspected MS, 83 patients with a final diagnosis of MS and 42 patients with alternative diagnoses. Compared with the 2017 criteria, the 2024 McDonald criteria identified six additional patients who fulfilled the diagnostic criteria at their initial clinical evaluation. Mean time to diagnosis decreased from 307 days with the 2010 criteria to 254 days with the 2017 criteria and further to 215 days with the 2024 criteria. Pairwise comparisons showed significant reductions in diagnostic delay for all three criteria sets (2010 vs 2017, $p = 0.010$; 2010 vs 2024, $p = 0.0013$; 2017 vs 2024, $p = 0.0277$). Compared with the 2017 criteria, the 2024 McDonald criteria demonstrated higher sensitivity (83.1% vs 75.9%) with reduction in specificity (85.7% vs 92.9%). The PPV and NPV were 92.0% and 72.0%, respectively, for the 2024 criteria, compared with 95.5% and 78.0% for the 2017 criteria.
Conclusion: The 2024 McDonald criteria significantly accelerated the diagnosis of MS compared with both the 2010 and 2017 criteria, reducing the mean time to diagnosis. Although the revised criteria showed a trend toward improved sensitivity with a modest reduction in specificity, overall diagnostic performance was comparable to that of the 2017 criteria.
Disclosures: no

P-7

Epstein-Barr Virus Serologic Profiles in Multiple Sclerosis and Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease: A Korean Cohort Study

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Background: While the link between Epstein–Barr virus (EBV) and multiple sclerosis (MS) is well established, geographic variation in EBV epidemiology warrants region-specific data from Asian populations. Beyond MS, the role of EBV in myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) remains far less studied.

Objective: To compare EBV serostatus and antibody titers in patients with MS, MOGAD, and controls in a Korean cohort.

Methods: We analyzed MS (n=130), MOGAD (n=125), and untreated tumor controls without known EBV association (n=132). MS and controls were frequency-matched to MOGAD by age at sampling. Serum Epstein-Barr nuclear antigen 1 (EBNA1) IgG, viral capsid antigen (VCA) IgG, VCA IgM, and early antigen (EA) IgG were measured using chemiluminescence immunoassays (LIAISON®, DiaSorin). EBV seropositivity was defined as EBNA1 IgG or VCA IgG positivity, and serologic findings suggestive of possible recent infection/reactivation were defined as positivity for VCA IgM or EA IgG.

Results: EBV seropositivity was nearly universal in MS, MOGAD, and control. EBNA1 responses differed across groups, with the frequency of EBNA1 IgG levels exceeding the upper reportable limit (>600 U/mL) being highest in MS, compared with MOGAD and controls (66.2% vs 33.6% vs 43.9%; $p<0.001$). In three-group analyses using controls as reference, MS had higher EBNA1 IgG levels (adjusted geometric mean ratio [aGMR], 1.54; $p=0.006$), whereas MOGAD did not. For VCA IgG, MS did not differ from controls, whereas MOGAD showed lower levels than controls (aGMR, 0.72; $p=0.018$). Among patients with MS and MOGAD, models additionally adjusted for disease-related factors indicated that EBNA1 IgG and VCA IgG levels were higher in MS (aGMR, 1.97; $p<0.001$ and aGMR, 1.42; $p=0.018$, respectively), while ongoing treatment at sampling was associated with lower VCA IgG levels (aGMR, 0.64; $p=0.007$). Serologic findings suggestive of possible recent EBV infection or reactivation were comparable across groups.

Conclusion: In this Korean cohort, MS showed stronger EBNA1 responses than MOGAD and controls, extending prior evidence on the relevance of EBNA1 in MS to an Asian population. The absence of a similar pattern in MOGAD suggests that the contribution of EBV may differ between the two diseases.

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P-8

Frequency of positive Myelin Oligodendrocyte Glycoprotein (MOG)-IgG tests and incidence of MOG antibody-associated Disease (MOGAD) in Singapore

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Background: The epidemiology of myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) remains poorly characterised in Asia with limited studies evaluating disease incidence.
Objective: We aim to describe national MOG-IgG testing trends, laboratory positivity, and the annual incidence of confirmed MOGAD in Singapore.
Methods: We conducted a retrospective observational study of all serum MOG-IgG cell-based assays performed at the National Neuroscience Institute clinical laboratory from 2018 to 2025. Annual laboratory positivity was calculated as the proportion of positive MOG-IgG tests among all tests performed, with exact 95% Clopper–Pearson confidence intervals (CIs). All patients with positive MOG-IgG underwent detailed chart review to establish the number of clinician-confirmed MOGAD cases, supported by international diagnostic criteria. Annual MOGAD incidence rates were calculated by dividing the number of confirmed MOGAD cases by 75% of the Singapore population, with exact Poisson 95% CIs. Temporal trends in testing volume, laboratory positivity, and incidence were assessed using Poisson regression models.
Results: A total of 3,107 MOG-IgG tests were performed during the study period with 141 positive samples (IRR 1.20/year, 95% CI 1.18–1.22; p<0.001). Although the annual number of MOG-IgG tests increased (172 in 2018 to 587 in 2025), testing volume expanded more rapidly than the number of positive cases, resulting in a decline in laboratory positivity over time (IRR 0.92/year, 95% CI 0.85–1.00; p=0.037). The annual incidence of confirmed MOGAD ranged from 2.6 to 5.9 cases per million person-years and increased over the study period (IRR 1.08/year 95% CI 1.00–1.17; p=0.038). Incidence estimates were comparable to those reported in other population-based cohorts.
Conclusion: MOGAD is a rare neuroinflammatory disorder, with an annual incidence of approximately 3 to 6 cases per million person-years in Singapore. Increasing MOG-IgG testing and incidence over time likely reflect improved disease recognition, broader access to diagnostic testing, and enhanced case ascertainment. These findings provide the first population-based estimates of MOGAD incidence in Singapore.
Disclosures: Nil

P-9

Developing National Consensus Guidelines for the Diagnosis and Management of Multiple Sclerosis in Indonesia: A Modified Delphi Approach

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Background: Managing Multiple Sclerosis (MS) in Indonesia faces unique challenges due to limited access to biomarker testing, restricted availability of Disease-Modifying Therapies (DMTs), high infectious disease burden, limited MRI facilities, and archipelagic geography. Consequently, international guidelines cannot be directly implemented, highlighting the urgent need for context-adapted national recommendations.
Objective: To establish an evidence-based national consensus on MS diagnosis and management tailored to clinical and structural realities in Indonesia.
Methods: Mandated by the Indonesian Neurological Association (PERDOSSI), a 6-member Steering Committee was appointed to execute a modified Delphi process. Panellists were selected based on specific criteria: licensed neurologists actively practicing for ≥5 years with direct experience managing MS. Panel composition ensured representative demographic coverage across Indonesia's three geographic regions, balance between academic and clinical practitioners, and varied years of practice. Following literature review and Focus Group Discussions (FGD) to identify clinical gaps, an online Round 1 survey was conducted anonymously. Round 2 utilizes a 5-point Likert scale (Consensus defined as ≥70% agreement with median 3–5 or disagreement with median 1–2; items with >30% non-consensus proceed to Round 3). Final draft consensus recommendations will be synthesized and disseminated following round completions.
Results: Prior literature search and preliminary FGDs established seven primary clinical domains for the consensus: (1) Diagnosis, (2) Relapse Management, (3) DMT Initiation, (4) Treatment Response Monitoring, (5) Switching and Discontinuation, (6) Approaches to Special Populations, and (7) Pre-treatment Screening. Round 1 Delphi has been successfully completed. Online Delphi Round 2 is scheduled for August 2026, followed by final recommendation drafting and consensus synthesis in September 2026.
Conclusion: This modified Delphi consensus process bridges international evidence-based standards with real-world clinical practice in Indonesia, establishing standardized, equitable, and locally feasible care strategies for MS patients nationwide.
Disclosures: No conflict of interest

P-10
Clinical Features, Ancillary Findings, and Therapeutic Profiles of Primary Central Nervous System Demyelination at Dr. Cipto Mangunkusumo National General Hospital
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Background: Central nervous system demyelinating diseases, including multiple sclerosis (MS), are chronic inflammatory disorders causing heterogeneous manifestations and disability during productive age. In Indonesia, national epidemiological, clinical and therapeutic data remain limited.
Objective: This study aimed to determine the prevalence of central nervous system demyelinating diseases at Cipto Mangunkusumo National Referral Hospital from 2022 to

November 2025. Demographic, clinical characteristics, ancillary tests, radiological findings, treatment profiles, and annualised relapse rates (ARR) data were described.
Methods: This was a retrospective descriptive study conducted among outpatients and inpatients at Cipto Mangunkusumo National Referral Hospital, Jakarta. Secondary data were obtained from electronic medical records between 2021 and November 2025. Central nervous system demyelinating disorders included in the study were multiple sclerosis (MS), neuromyelitis optica spectrum disorder (NMOSD), and myelin oligodendrocyte glycoprotein antibody–associated disease (MOGAD). Total sampling was applied, including patients aged 18 years and older with diagnoses confirmed by a consultant neurologist specialising in neuroimmunology and neuroinfectious diseases, while excluding those with central nervous system tumours or infections. Ethical approval was obtained from the Ethics Committee of the Faculty of Medicine, Universitas Indonesia. Patient confidentiality was maintained throughout the study.
Results: A total of 105 patients met the inclusion criteria, including NMOSD 58%, MS 39%, and MOGAD 3%. Most were female (88.5%).The prevalence was 2.9 per 1,000 neurology outpatient visits, with median age at onset was 28 years, and mean onset ages of 27, 33, and 27 years for MS, NMOSD, and MOGAD, respectively. The most common initial manifestations were unilateral optic neuritis (39%) and incomplete transverse myelitis (33.3%), whereas transverse myelitis predominated in MS (54%). AQP4 antibodies, oligoclonal bands, and anti-MOG antibodies were positive in 48%, 10.4%, and 2%, respectively; no MS patient was AQP4-positive.T2-hyperintense brain and cervical spinal cord lesions predominated on MRI. High-dose intravenous methylprednisolone was the main acute treatment (69.6%).Oral corticosteroids were the predominant maintenance therapy (81%), while rituximab was used in 31.4% of patients; azathioprine used in 41% of MS patients. NMOSD had the highest ARR (0.38), followed by MS (0.19) and MOGAD (0).
Conclusion: Central nervous system demyelinating diseases in Indonesia show epidemiological and clinical patterns consistent with global reports. However, the number of identified cases was lower, likely reflecting diagnostic challenges and limited access to advanced investigations. Improving diagnostic resources and disease-specific therapies is essential to optimise patient care.
Disclosures: The authors declare no conflicts of interest.

P-11
Comparison of anti-myelin oligodendrocyte glycoprotein immunoglobulin G-associated disorder and neuromyelitis optic spectrum disorder in a Taiwanese cohort
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Background: Neuromyelitis optica spectrum disorder (NMOSD) and myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) are antibody-mediated inflammatory disorders of the central nervous system with overlapping clinical phenotypes but distinct immunopathology and treatment responses. Comparative data from Asian populations remain limited.
Objective: We aimed to compare the demographic characteristics, clinical manifestations, disease course, and functional outcomes of patients with MOGAD and NMOSD in a Taiwanese cohort.

Methods: We prospectively enrolled 28 patients fulfilling the 2023 international diagnostic criteria for MOGAD and 173 patients fulfilling the 2015 International Panel for NMO Diagnosis criteria for NMOSD at Taipei Veterans General Hospital. Among the patients with NMOSD, 141(81.5%) were aquaporin-4-immunoglobulin G (AQP4-IgG)-positive and 32(18.5%) were double-seronegative for AQP4-IgG and MOG-IgG. All patients with MOGAD were MOG-IgG-positive. Medical records were systematically reviewed to ascertain clinical manifestations, relapse history, treatments, and functional outcomes.
Results: Compared with NMOSD, MOGAD showed a more balanced sex distribution (57.1% vs 86.1% female; p<0.001), younger age at onset (median [range], 36 [11-67] vs 44 [18-85] years; p=0.05), and shorter follow-up duration (median, 2.1 vs 5.7 years; p<0.001). Antecedent infection was more frequent in MOGAD than NMOSD (39.3% vs 5.5%; p<0.001), whereas concomitant autoimmune disease was less frequent (3.6% vs 36.7%; p<0.001). Optic neuritis (50%) and brain syndrome (39.3%) were more common initial manifestations in MOGAD, whereas myelitis predominated in NMOSD (46.8; p=0.034). MOGAD patients more frequently exhibited a monophasic course than NMOSD (59% vs 28.7 %; p=0.025) and had a lower annualized relapse rate (median, 0.3 vs 0.6; p=0.003). At last follow-up, patients with MOGAD had better visual recovery and less residual motor and bladder dysfunction than NMOSD.
Conclusion: MOGAD and NMOSD differ substantially in demographic profile, presenting phenotypes, disease course and functional outcomes. Recognition of these differences may facilitate diagnosis, prognostication, and treatment selection.
Disclosures: The authors report no disclosures.

P-12
Frequency and Characteristics of Cerebral Cortical Encephalitis in Adult-onset Asian MOGAD
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Refer to O-5 in Plenary Oral Presentation – 1

P-13
Clinical Characteristics, Outcomes, and Disease Course of Double-Seronegative Optic Neuritis in Sri Lanka: A Retrospective Cohort Study
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Background: Identification of aquaporin-4 (AQP4) and myelin oligodendrocyte glycoprotein (MOG) autoantibodies have redefined inflammatory optic neuropathies. But double-seronegative inflammatory optic neuritis (ON) remains a poorly understood entity.
Objective: To evaluate demographic profiles, clinical features, recurrence patterns, and visual outcomes in a cohort of Sri Lankan patients with double-seronegative ON.
Methods: We conducted a retrospective cohort study of patients diagnosed with isolated ON in Sri Lanka from January 2014 to December 2023 of all patients referred to National Hospital Sri Lanka which is a tertiary care referral centre. Infective, vascular, metabolic, and systemic autoimmune etiologies were excluded. AQP4 and MOG antibodies were tested using live cell-based assays at Mayo Clinic, USA. Patients with multiple sclerosis were excluded. Double-seronegative patients were evaluated for demographic parameters, lateralization, relapse rates, cerebrospinal fluid oligoclonal bands (OCB), and visual outcomes.
Results: The cohort included 141 patients, of whom 78 were female (55.3%; female-to-male ratio, 1.24:1). The median age at onset was 34 years (IQR, 23–46), with the largest proportion aged 30–39 years (26.2%, n=37); paediatric-onset cases (<18 years) accounted for 15.1% (n=21). Among 108 patients with laterality data, optic neuritis was unilateral in 63.0% (n=68; right=35, left=33) and bilateral in 37.0% (n=40). Most patients had a monophasic course (78.6%, n=110), while 21.4% (n=30) had recurrent disease; CSF oligoclonal bands were positive in 11.5% of tested patients (n=3/26). At three-month follow-up (n=141), visual outcomes were: normal in 12.1% (n=17), blurred vision permitting reading in 49.6% (n=70), finger counting in 22.0% (n=31), hand movement perception in 9.2% (n=13), light perception only in 4.3% (n=6), and no light perception in 2.8% (n=4).

Conclusion: Double-seronegative optic neuritis in Sri Lanka presents in early adulthood as a predominantly monophasic, unilateral disease. It is possible that an unidentified antibody is present in this group of patients highlighting the critical need for novel biomarker discovery and extended longitudinal follow-up.
Disclosures: None to declare

P-14
Real-World Safety Profile of Ocrelizumab in Patients with Multiple Sclerosis: Findings from a Multicentre Turkish Cohort
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Background: Although the safety profile of ocrelizumab has been well characterized in randomized clinical trials, real-world data from broader and more heterogeneous patient populations are important for evaluating treatment-related adverse events in routine clinical practice.
Objective: This study aimed to assess the frequency, distribution, and course of adverse events in patients with multiple sclerosis receiving ocrelizumab in Türkiye.
Methods: This multicentre, ambispective, real-world cohort included patients diagnosed with multiple sclerosis according to the 2017 revised McDonald criteria who received ocrelizumab as part of routine clinical care. Data from patients treated between June 2018 and December 2020 were collected retrospectively, while prospective follow-up continued from January 2021 onward. A total of 927 patients who received at least one dose of ocrelizumab were included in the safety analysis. Events occurring within 24 hours after the start of infusion were classified as infusion-related reactions. Other adverse events occurring during treatment were recorded separately and graded according to the Common Terminology Criteria for Adverse Events, version 4.0. Liver function tests and lymphocyte counts were routinely monitored.
Results: The adverse-event rate was 6.7% during the first ocrelizumab cycle, decreasing to 2.3% during the second cycle, 1.4% during the third cycle, and 1.0% during the fourth and subsequent cycles. The most frequently reported adverse event was fatigue (n=61, 36.3%), followed by infusion-related reactions (n=36, 21.4%), upper respiratory tract infections (n=26, 15.5%), lower respiratory tract infection or pneumonia (n=8, 4.8%), cutaneous reactions (n=7, 4.2%), increased spasticity (n=6, 3.6%), and abdominal pain or other gastrointestinal complaints (n=6, 3.6%).
Conclusion: In this large multicentre real-world cohort, ocrelizumab demonstrated a generally manageable safety profile. Adverse events were most common during the first treatment cycle

and declined substantially with subsequent cycles. Fatigue, infusion-related reactions, and upper respiratory tract infections were the most frequently reported events.
Disclosures: No

P-15
Clinical Characteristics And Visual Outcomes Of Optic Neuritis In Sri Lanka: A Retrospective Study
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Background: Optic neuritis is a common cause of acute vision loss in young adults, but Sri Lankan data on its clinical profile and outcomes are limited.
Objective: To evaluate demographic features, clinical characteristics, and visual outcomes of patients with optic neuritis presenting in 2024.
Methods: We conducted a retrospective descriptive study at the National Hospital of Sri Lanka from 01/01/2024 to 31/12/2024. Patients meeting ICON 2022 criteria for possible or definite optic neuritis were included. Infective, vascular, and metabolic causes were excluded. Demographic, clinical, radiological, treatment, and visual outcome data were analysed using the EDSS Visual Functional System Score. Routine anti-AQP4 and anti-MOG antibody testing was unavailable. Patients received high-dose intravenous steroids, followed by therapeutic plasma exchange for poor response.
Results: Seventy-nine patients were included; median age at onset was 42 years, and 58%(n=46) were female. Bilateral visual impairment occurred in 33%(n=26), painless presentation in 43%(n=34), and fundal oedema in 40%(n=36). Orbital MRI showed long-segment lesions in 28%(n=22) and short-segment lesions in 47%(n=37);brain MRI was normal in 96%(n=75). At presentation, 72%(n=57) had disabling visual impairment. After intravenous methylprednisolone,59%(n=13) with non-disabling impairment achieved normal vision, compared with 7%(n=4) of those with disabling impairment; 65%(n=36) of the latter remained disabled at three months. Among 29 patients receiving plasma exchange, 80%(n=23) remained visually disabled. Rituximab was given to 72%(n=58). At one year,35%(n=27) had disabling vision, 31%(n=24)had non-disabling vision, and 34%(n=26)had normal vision. Among 77 patients, 18%(n=14) relapsed; three were diagnosed with multiple sclerosis and two had concurrent longitudinally extensive transverse myelitis.
Conclusion: Compared with Western cohorts, our patients more often had bilateral involvement, severe visual loss, painless presentation, and normal brain MRI findings.
Disclosures: None.

P-16
Clinical Spectrum And Outcomes Of Inflammatory Transverse Myelitis: A 10-year Sri Lankan Cohort
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Background: Transverse myelitis is a pathobiologically heterogeneous syndrome with substantial neurological consequences; however, Sri Lankan data on its clinical profile and outcomes remain limited.

Objective: To assess the demographic, clinical, radiological, and outcome characteristics of patients with transverse myelitis presenting in Sri Lanka between 2014 and 2023.
Methods: We conducted a retrospective descriptive study in Sri Lanka from January 2014 to December 2023. Patients with inflammatory transverse myelitis were classified as AQP4-positive NMOSD, MOGAD, multiple sclerosis (MS), seronegative transverse myelitis (tested negative), or transverse myelitis of unknown serology (not tested). Autoantibodies were assessed using live cell-based assays. Infective and vascular causes were excluded. Outcomes were evaluated using the Expanded Disability Status Scale.
Results: A total of 433 patients were included: 6.5% (n=27) had MS, 4.5% (n=19) NMOSD, 7% (n=28) MOGAD, 22% (n=97) seronegative myelitis, and 60% (n=262) unknown serological status. The median age at onset was 34 years, and 49% (n=214) were female. Among the 164 patients tested for serology, 12% (n=19) were AQP4 antibody-positive, 17% (n=28) were MOG antibody-positive, and 71% (n=117) were seronegative. Of the 363 patients who underwent MRI, 90% (n=326) had positive findings. Median EDSS scores at last follow-up were 1.0 for MS, 7.0 for NMOSD, 2.5 for MOGAD, 3.0 for seronegative myelitis, and 7.0 for transverse myelitis of unknown serology.
Conclusion: A large proportion of patients had either seronegative transverse myelitis or myelitis of unknown aetiology. Long-term disability was greatest among patients with NMOSD and unknown serology, while MS and MOGAD were associated with more favourable outcomes. This 10-year cohort highlights the importance of antibody testing for early aetiological diagnosis.
Disclosures: None.

P-17
Maternal and Neonatal Outcomes in Women with Neuromyelitis Optica Spectrum Disorder: A Nationwide Population-Based Cohort Study
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Background: Neuromyelitis optica spectrum disorder (NMOSD) predominantly affects women of childbearing age, making pregnancy a frequent clinical concern. However, evidence on obstetric and neonatal safety remains largely limited to small case series with inconsistent findings, and population-level data on congenital anomaly risk in offspring are particularly scarce.
Objective: To evaluate maternal peripartum complications and offspring congenital anomalies in women with NMOSD using a nationwide delivery cohort.
Methods: Using the Korean National Health Insurance Service database linked to the national infant health screening programme, we identified live births between 2012 and 2021. After excluding records with missing infant identifiers, maternal age, gestational age, or birth weight, and implausible birth weights, 2,954,580 deliveries were analysed. NMOSD was defined by an ICD-10 G36.0 diagnosis recorded before delivery (n=132). Congenital anomalies required ≥2 recorded Q-code diagnoses and were grouped into core and expanded major categories. Adjusted relative risks (aRR) were estimated using modified Poisson regression with robust variance, adjusted for maternal age, parity, Charlson Comorbidity Index (CCI), pre-pregnancy hypertension and diabetes, and delivery year. Propensity-score–weighted and penalized-likelihood analyses were performed as sensitivity analyses.

Results: Women with NMOSD were older (33.5±3.6 vs 32.4±4.2 years) and had greater comorbidity (CCI ≥2: 15.2% vs 5.6%; pre-pregnancy hypertension 3.8% vs 0.8%; diabetes 9.1% vs 1.4%; all $p<0.05$). Caesarean delivery was more frequent (56.1% vs 44.6%) but attenuated after adjustment (aRR 1.07, 95%CI 0.85–1.34). Preterm birth (0.76, 0.41–1.42), gestational hypertension, gestational diabetes, postpartum haemorrhage, and venous thromboembolism did not differ; no placenta previa, abruption, or sepsis occurred. Any major congenital anomaly (9.1% vs 6.3%; 1.09, 0.62–1.92), small-for-gestational-age (1.48, 0.92–2.39), and low birth weight (1.02, 0.55–1.90) were not increased. Estimates were unchanged under ATT weighting (all SMD<0.001). A nominal excess of respiratory-tract anomalies rested on two events and reversed direction under penalized-likelihood estimation.
Conclusion: Despite a substantially higher burden of pre-pregnancy comorbidity, NMOSD was not associated with increased adverse maternal or neonatal outcomes after adjustment, consistently across weighted analyses. These data support cautiously reassuring pre-pregnancy counselling, although the small number of exposed pregnancies precludes excluding moderate risk increases.
Disclosures: None.

P-18
Increased Autoimmune Comorbidities in Neuromyelitis Optica Spectrum Disorder Compared to Multiple Sclerosis
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Background: Autoimmune comorbidities frequently occur in central nervous system demyelinating diseases such as multiple sclerosis (MS) and neuromyelitis optica spectrum disorder (NMOSD), suggesting shared immunopathological mechanisms.
Objective: To compare the prevalence of autoimmune comorbidities between patients with NMOSD and those with MS in our cohort.
Methods: We conducted a retrospective analysis of 438 patients (211 with MS, 227 with NMOSD) diagnosed and followed at a single tertiary care center. Autoimmune diagnoses included Sjögren's syndrome, autoimmune thyroid disease, rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), myasthenia gravis (MG), Crohn's disease, inflammatory myopathies, and antiphospholipid syndrome (APS). Firth's bias-reduced logistic regression was used to compare the groups while adjusting for age and sex.
Results: A total of 438 patients were analyzed, including 211 with MS (M:F = 49:162; mean age, 34.4 ± 10.8 years) and 227 with NMOSD (M:F = 41:186; mean age, 44.2 ± 17.1 years). Autoimmune comorbidities were observed in 18.1% of patients with NMOSD compared with 5.7% of those with MS ($p = 0.00013$). After adjustment for age and sex using Firth logistic regression, NMOSD was independently associated with increased odds of autoimmune comorbidity (odds ratio, 3.30; 95% confidence interval, 1.59–6.88; $p = 0.0014$). Among individual autoimmune diseases, Sjögren's syndrome was most prevalent in NMOSD, occurring in 11.0% of patients compared with 0.9% of those with MS. Other autoimmune conditions, including RA, SLE, APS, autoimmune thyroid disease, MG, and Crohn's disease, were rare in both groups and did not differ significantly.
Conclusion: Patients with NMOSD had a higher burden of autoimmune comorbidities than those with MS, consistent with prior reports of systemic autoimmunity in NMOSD. Notably, our cohort identified a high prevalence of Sjögren's syndrome among NMOSD patients. These

findings underscore the distinct immunopathological mechanisms between the two disorders and highlight the need for careful screening strategies.

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P-19

Clinical, Radiological and Laboratory Characteristics of Patients With Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease: A Single-Centre Experience

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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) has recently been recognised as a distinct clinical entity among inflammatory demyelinating disorders of the central nervous system, with international diagnostic criteria established in 2023. Its clinical and radiological features differ from those of multiple sclerosis and aquaporin-4 (AQP4) antibody-positive neuromyelitis optica.

Objective: To evaluate the clinical, radiological and laboratory characteristics of patients with MOGAD followed at our centre.

Methods: Data from nine patients diagnosed with MOGAD between 2015 and 2026 were retrospectively reviewed. Demographic characteristics, initial attack presentation, magnetic resonance imaging findings, cerebrospinal fluid (CSF) analyses and treatments were evaluated.

Results: Of the patients, 55.6% were male. The mean body mass index was 25.99 ± 3.76 kg/m², and the mean age at first symptom was 25.22 ± 8.93 years. Three patients (33.3%) had a monophasic course, whereas six (66.7%) had a relapsing course. Myelitis was the most common initial presentation (77.8%), including two patients with concomitant brainstem involvement. Optic neuritis and isolated brainstem involvement were each observed in one patient. The mean Expanded Disability Status Scale (EDSS) score decreased from 2.28 ± 1.82 at admission to 0.56 ± 0.73 at discharge. All patients received high-dose intravenous corticosteroids during the initial attack and showed clinical improvement. The mean interval between the first symptom and diagnosis was 47.33 ± 52.49 months. Azathioprine or rituximab was used in patients with relapsing disease, while tocilizumab was administered in one treatment-resistant patient. Mean CSF protein was 44.8 ± 13.3 mg/dL and the mean immunoglobulin G index was 0.48 ± 0.07.

Conclusion: Our findings support the heterogeneous nature of MOGAD, which may begin at a young age and frequently follow a relapsing course during long-term follow-up. Early diagnosis and appropriate immunomodulatory treatment may be critical for improving long-term outcomes.

Disclosures: The authors declare no conflicts of interest.

POSTER SESSION - 2
Basic Science

P-20
Withdrawn

P-21
Withdrawn

P-22
Microglia-imOPC Immune Synapse Drives Cellular Senescence and Metabolic Remodelling in Multiple Sclerosis
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Background: The failure of remyelination in the late stages of multiple sclerosis (MS) is a primary cause of irreversible neurological disability. Although the highly inflammatory microenvironment is known to be detrimental, the precise mechanisms by which pathogenic microglia hijack the metabolic and differentiation fate of oligodendrocyte precursor cells (OPCs) remain largely undetermined.
Objective: This study aimed to investigate whether pathogenic microglia in the lesion microenvironment induce irreversible senescence and metabolic collapse in OPCs through non-classical, direct cell-to-cell interactions, bypassing traditional paracrine signalling pathways.
Methods: We analysed MS and experimental autoimmune encephalomyelitis (EAE) lesions using single-cell and spatial transcriptomics. An in vitro contact co-culture model of highly pathogenic microglia and primary neonatal murine OPCs was established. Surface plasmon resonance (SPR) and Seahorse metabolic assays were utilised to evaluate direct protein interactions and glycolytic flux, respectively. Targeted therapeutic effects were validated at the cellular level using specific receptor neutralising antibodies and metabolic inhibitors.
Results: We identified a subpopulation of deeply senescent, "immune-like" OPCs (imOPCs) in demyelinating lesions. Under inflammatory stress, these cells undergo cross-lineage transdifferentiation, ectopically expressing various myeloid-characteristic membrane receptors. We discovered that microglia bypass traditional paracrine modes to establish direct physical anchoring with imOPCs via specific adhesion molecules, followed by the targeted, high-concentration perfusion of toxic immune factors that precisely bombard the target cells. This toxic signalling cascade forcibly hyperactivates internal inflammatory transcription hubs in imOPCs, dismantling their fundamental energy landscape. This leads to an abnormal surge in glycolytic flux and the comprehensive eruption of the senescence-associated secretory phenotype (SASP). In co-culture models, blocking the physical contact interface with targeted antibodies or correcting excessive glycolysis with metabolic inhibitors effectively reversed the sene *Editors Note – Information provided by author incomplete.*
Conclusion: This study reveals a pathogenic "dual immune synapse" formed between microglia and imOPCs. This structure-dependent contact remodels local OPC energy metabolism and induces cellular senescence, providing highly promising, targeted pharmacological interventions to promote remyelination in late-stage MS.
Disclosures: No

P-23

Association Between Rotarod Tests and Myelin Basic Protein in the Confirmation of the Cuprizone-Induced Rat Multiple Sclerosis Model and the Relationship of These Parameters with Dietary Zinc Status

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Background: Experimental autoimmune encephalomyelitis (EAE) is widely used for studies of human inflammatory demyelinating diseases. The cuprizone model is one of the most frequently used. The cuprizone model is a toxic demyelination model. The most significant challenge in this experimental model is demonstrating the development of MS in animals with experimental evidence. Two tests stand out in demonstration.
Objective: In the study, approved by the ethics committee, forty-six adult male Wistar rats were divided into five groups.
Methods: In the study, approved by the ethics committee, forty-six adult male Wistar rats were divided into five groups. Groups 1 and 2 received Carboxy-methyl-cellulose (CMC) solution. Multiple sclerosis was induced in Groups 3, 4, and 5 by daily gavage of cuprizone in CMC solution (1% of feed intake) for 8 weeks. Group 4 received a zinc deficient diet, while Group 5 received daily intraperitoneal zinc sulfate supplementation. Myelin basic protein gene expression in animals was determined using Real-Time PCR.
Results: Results showed that MS-induced rats in Groups 3 and 4 exhibited significantly shorter rotarod fall times and higher corpus callosum MBP gene expression compared to other groups ($p<0.05$). Notably, zinc supplementation in Group 5 reversed these effects ($p<0.05$).
Conclusion: These findings confirm that 8 weeks of cuprizone administration induces an MS-like condition in rats, and zinc supplementation effectively ameliorates these MS symptoms.
Disclosures: The author declare that they have no conflict of interest

P-24

Multimodal Profiling Reveals Clinicobiological Heterogeneity of Double-Seronegative CNS Demyelinating Disorders: An Integrated Machine Learning and Biomarker Study

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Refer to O-3 in Plenary Oral Presentation – 1

P-25

Microglial depletion exacerbates axonal damage and motor dysfunction in mice with cuprizone-induced demyelination

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Background: The cuprizone (CPZ)-induced demyelination model is one of the animal models of Multiple sclerosis (MS), characterized by apoptotic death of mature oligodendrocytes, and accompanied by neuroinflammation and motor dysfunction. The colony-stimulating factor 1 receptor (CSF1R) plays an important role in microglia. PLX3397 (PLX), a selective CSF1R inhibitor that causes microglial depletion.

Objective: The contribution of microglia to motor function during peak demyelination in the CPZ mouse model remains unknown. In this study, we aimed to investigate the motor function of CPZ model mice whose microglia were depleted with PLX.
Methods: Male C57BL/6J mice (10 weeks old) were housed under standard conditions and fed powdered diets ad libitum for 5 weeks. The powdered diet consisted of 0.2% CPZ and PLX/CPZ that were mechanically mixed. Control mice were fed CPZ-free diets. Motor function and balance were evaluated after 5 weeks using pole, beam walk, ladder walk, and rotarod tests. Demyelination was assessed in coronal sections of the corpus callosum by Black-Gold II myelin staining, quantified as optical density. For the immunofluorescence test, the brain sections were incubated for 1 h in blocking buffer with rabbit anti-ionized calcium-binding adaptor molecule 1 (Iba1) antibody (1:1000; Wako, Osaka, Japan; cat#: 019-19741) and rabbit anti-APP antibody (1:1000; Abcam, Cambridge, UK; cat#: 32136) at 4 °C overnight, followed by incubation at room temperature for 1 h with a secondary antibody (Cyanine-3 (Cy3)-conjugated AffiniPure goat anti-rabbit IgG, Jackson ImmunoResearch, 1:500). The images were obtained sequentially at 561 nm wavelength of a light-emitting diode (LED) on Cy3 using a UPLSAPO × 40 numerical aperture 0.95 dry objective lens (Olympus). Sections were photographed using a KEYENCE BZ-X700 microscope. Q-PCR analysis was performed to determine the expression levels of Iba1, TNF-a, IL-1b, and iNOS, normalized to phosphoglycerate kinase 1 (PGK).
Results: PLX treatment aggravated motor dysfunction as shown by the pole, beam walk, ladder walk, and rotarod tests. PLX treatment removed microglia from the superior cerebellar peduncle (SCP), but not from the corpus callosum (CC). Although PLX treatment did not affect the degree of demyelination in both of CC and SCP, the expression of axonal damage marker APP (amyloid precursor protein) was increased. Increased TNF-a, IL-1b, and iNOS expressions were observed in PLX-treated mice.
Conclusion: These results suggest that microglial depletion exacerbates axonal damage and motor dysfunction in CPZ model mice. In this study, we found that microglia contribute to motor function and axon-protective effects in CPZ-induced demyelination.
Disclosures: The authors declare no conflicts of interest.

P-26
Oral Microbiome Dysbiosis in Multiple Sclerosis: A Pilot Exploratory Study on Prevotella intermedia and Veillonella parvula in Persons with MS compared to Healthy Controls
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Background: Oral microbiome dysbiosis occurs in MS patients. The implicated pathobionts are F.nucleatum, P.gingivalis, and several Prevotella species, including P. intermedia. In this study, we explored the presence and abundance of two oral gram-negative anaerobic bacteria, one pro-inflammatory (Prevotella intermedia) and one anti-inflammatory (Veillonella parvula), in persons with MS (PwMS) versus healthy.
Objective: To study P. intermedia and V. parvula qualitatively and quantitatively in persons with MS and healthy controls (HCs). To review publicly available literature on P.intermedia and V.parvula in PwMS.

Methods: We collected saliva from 10HCs and 10PwMS satisfying the McDonald's 2024 criteria. Total microbial DNA was extracted from all saliva samples using the SN (Shankar Narayana) Saliva DNA Extraction Kit (Magnetic Bead-Based) following the manufacturer's protocol. 16S rRNA amplicon sequencing data from NCBI BioProject PRJNA1256443 were re-analysed using QIIME2 version 2024.10. Species-level validation was performed on saliva using conventional polymerase chain reaction (PCR) and absolute quantitative PCR (qPCR).
Results: P. intermedia was detected in 7 of 10 MS samples versus 2 of 10 controls by PCR (p=0.07). V. parvula was detected in 1 of 10 MS samples versus 2 of 10 HC samples (p=1.00). There was a ten-fold higher median qPCR copy numbers in MS (p = 0.057), while V. parvula showed the inverse pattern. Review of literature showed significant Prevotella enrichment in MS samples (p = 0.0313) and directional Veillonella depletion (8.9% versus 15.6%; p = 0.478). P. intermedia may promote MS biology by acting as a chronic oral inflammatory pathobiont that evades complement, activates lipopolysaccharide - Toll-like receptor - nuclear factor receptor κB (LPS–TLR–NFκB) signalling, skews immunity toward Th17, disrupts Treg balance, and possibly contributes to molecular mimicry; whereas V. parvula may be protective when present in a healthy oral microbial network by consuming lactate, supporting propionate production, and participating in taurine/hypotaurine-linked metabolic homeostasis.
Conclusion: In this small pilot study, we observed a higher abundance of P.intermedia in PwMS compared to HCs. Further exploration is needed with a larger sample size to confirm our observations.
Disclosures: NIL

P-27
Clinical and Disability Outcomes in Seronegative Transverse Myelitis Compared with NMOSD and MOGAD: A Retrospective Cohort Study
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Background: Inflammatory transverse myelitis (TM) encompasses a heterogeneous group of disorders, including anti AQP4+ neuromyelitis optica spectrum disorder (NMOSD), myelin oligodendrocyte glycoprotein antibody disease (MOGAD) and seronegative TMs. Comparative data on clinical and disability outcomes across these groups remain limited.
Objective: To compare the clinical characteristics, relapse rates, radiological features, and disability outcomes among patients with seronegative transverse myelitis, NMOSD, and MOGAD, and to identify predictors of long-term disability.
Methods: We conducted a retrospective cohort study in National Hospital of Sri Lanka on patients with isolated inflammatory TM diagnosed between January 2022 and January 2025. Patients were categorized into seronegative TM, NMOSD, and MOGAD. All patients were evaluated for infective causes and autoantibodies using live cell-based assays. Infective, vascular and metabolic causes of myelopathy were excluded. Patients with multiple sclerosis were excluded. Clinical characteristics, relapse rates, radiological features, and disability outcomes were analyzed. All patients were treated with high dose steroids with or without therapeutic plasma exchange, and maintenance immunotherapy. Disability was assessed using the Expanded Disability Status Scale (EDSS). Group comparisons were performed using non-parametric tests, and multivariable logistic regression was used to identify predictors of disability.
Results: Eighty-four patients were included, comprising 73.8% (n=) seronegative TM, 11.9% NMOSD, and 14.3% MOGAD. Median age at onset was comparable across groups (33, 42.5,

and 29 years, respectively; p = 0.365). Median annualised relapse rate was 0 in all groups. Median EDSS at last follow-up was 3.0, 6.5, and 3.28, respectively, with no significant intergroup difference (p > 0.05). Ambulatory dependence was observed in 21%, 50%, and 25% of patients, respectively, without statistical significance. On multivariable analysis, no independent predictors of disability were identified.
Conclusion: Despite differing serological and radiological profiles, clinical and disability outcomes were comparable across groups. These findings suggest that long-term disability in inflammatory TM may not be independently determined by antibody status or disease classification.
Disclosures: Nothing to disclose

P-28
Bruton's Tyrosine Kinase Inhibition Modulates the Transcriptomic Landscapes of B Cells in a Mouse Model of Neuromyelitis Optica Spectrum Disorders
Huiwen Xue[1], Koon Ho Chan[1], Leung Wah Yick[1]
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Background: Neuromyelitis optica spectrum disorders (NMOSD) are B-cell mediated central nervous system autoimmune inflammatory disorders characterized by pathogenic aquaporin-4 autoantibodies. Bruton's tyrosine kinase (BTK) mediates B cell activation, differentiation, and maturation. However, the effects of inhibiting BTK on B cells in NMOSD remain unknown.
Objective: We investigate how evobrutinib, a selective BTK inhibitor, modulates the transcriptomic landscapes, differentiation trajectories, and functional profiles of B cells in an autoimmune mouse model of NMOSD.
Methods: Mice with AQP4 autoimmunity were established by immunising mice against AQP4 via in vivo electroporation. Mice were treated with evobrutinib (3mg/kg/day) or vehicle. Splenic CD19+ B cells were isolated using magnetic-activated cell sorting. B cells were analysed using single-cell RNA sequencing (scRNA-seq). Following quality control, single-cell datasets were merged for dimensionality reduction, unsupervised clustering, and cell-type annotation. Pseudotime analysis was performed to reconstruct the differentiation trajectory of B cells, while differential gene expression and pathway enrichment analyses were conducted to evaluate functional alterations induced by evobrutinib.
Results: scRNA-seq of B cells constructed a cellular atlas, identifying five main subsets: follicular, marginal zone, transitional, immature B, and memory B cells. Overlapping downregulated differential expression genes across follicular, marginal zone, and memory B subsets were enriched for metabolic and respiration-related pathways, including oxidative phosphorylation and ATP biosynthetic process. Subtype analysis of follicular B cells revealed that evobrutinib treatment induced expansion of follicular type II B cells (FO-II) and concomitant reduction of follicular type I B cells (FO-I).
Conclusion: In a mouse model of NMOSD, evobrutinib alters B cell fate and metabolic activity by targeting respiration pathways and shifting follicular B cell subsets from FO-II towards FO-I, highlighting BTK inhibition as a potential immunomodulatory therapy.
Disclosures: The authors declare no competing interests or financial conflicts of interest related to this study.

P-29

Iguratimod Blocks Th17 Migration Through Inhibiting Integrin β3 on CNS Vascular Endothelial Cells

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Refer to O-4 in Plenary Oral Presentation – 1

P-30

Standardized Serum Neurofilament Light Chain Z-Scores and Short-Term Relapse Risk in Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease

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Background: Relapse prediction remains an important clinical challenge in managing myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD). Although serum neurofilament light chain (sNfL) reflects neuroaxonal injury, its utility in predicting subsequent relapse in MOGAD is not fully established.

Objective: We aimed to evaluate whether standardized sNfL z-scores are associated with subsequent relapse, focusing on the short-term (1-year) relapse risk and the influence of the clinical state at the time of sampling.

Methods: We retrospectively analyzed 111 serum samples from patients with MOGAD who had available sNfL measurements. The sNfL levels were analyzed as laboratory-generated z-scores based on the Basel sNfL reference framework, incorporating age, body mass index, healthy control reference distribution, and assay lot number. The primary outcome was a relapse within 1 year after sampling, while a relapse at any time during follow-up was assessed as an exploratory outcome. The clinical state at sampling was categorized as either a 'recent attack state', defined as blood sampling within 90 days of the last attack, or a 'stable state'. Logistic regression models were used to evaluate the association between sNfL z-scores and subsequent relapses before and after adjusting for the clinical state at sampling.

Results: Of the 111 evaluated cases, 22 (19.8%) experienced a relapse within 1 year after sampling, and 33 (29.7%) relapsed at any time during the entire follow-up period. In the unadjusted analysis, higher sNfL z-scores were significantly associated with a 1-year relapse; each 1-unit increase was associated with nearly two-fold higher odds of relapse (odds ratio [OR] 1.96, 95% confidence interval [CI] 1.33–3.02; p=0.001). After adjusting for the clinical state at sampling, this association was attenuated but remained directionally consistent, indicating a persistent trend (adjusted OR 1.51, 95% CI 0.95–2.46; p=0.086). In a separate exploratory unadjusted analysis, the sNfL z-score was also associated with a relapse at any time during follow-up (33 samples, 29.7%; OR 1.55, 95% CI 1.11–2.22; p=0.013).

Conclusion: Standardized sNfL z-scores are associated with a 1-year relapse in MOGAD, maintaining a directionally consistent trend even after adjusting for the clinical state at sampling. These findings suggest that standardized sNfL levels may reflect the short-term relapse risk in MOGAD, supporting its potential prognostic value beyond recent attack-related neuroaxonal injury.

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Biogen Idec, Sanofi Genzyme, UCB, Samsung Bioepis, Mitsubishi Tanabe Pharma, Kolon Life Sciences, Celltrion, Roche, Janssen, AstraZeneca, Medicine Pharma and Neurophet Inc. This work was supported by the National Research Foundation of Korea(NRF) grant funded by the Korea government (MSIT) (RS-2025-00554796), the Bio&Medical Technology Development Program of the National Research Foundation (NRF) funded by the Korean government (MSIT) (RS-2025-02263016) and the Future Medicine 2030 Project of the Samsung Medical Center (SMO126004).

POSTER SESSION - 3
Neuropathology

P-31
Expanding the Spectrum of Nodoparanodopathies: Atypical Presentations, Novel Antibody Co-Positivities, and Therapeutic Challenges in Autoimmune Neuropathies

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Background: Autoimmune neuropathies and nodoparanodopathies often present atypically, mimicking anterior horn cell disease, indolent myalgia/fatigue, or severe refractory dysautonomia.
Objective: To highlight the value of clinical suspicion in identifying novel and atypical antibody co-positivity, and the need for early, aggressive immunotherapy escalation to optimise outcomes.
Methods: We describe three cases of diverse autoimmune neuropathy. Case 1: a 61-year-old man with 1.5 years of progressive asymmetrical distal-to-proximal muscle atrophy, foot drop, and pure motor axonal involvement mimicking anterior horn cell disease on electromyography (EMG). Case 2: a 55-year-old man with chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) and a 4–5-year course of myalgia and fatigue without significant weakness, with serial electrophysiology progressing from demyelinating changes with conduction block to absent compound muscle and sensory nerve action potentials (CMAPs/SNAPs). Case 3: a 44-year-old woman with relapsing-progressive painful sensory-motor demyelinating neuropathy, severe dysautonomia, and absent sympathetic skin response. All underwent metabolic/vasculitis screening, whole-body FDG-PET CT, cerebrospinal fluid (CSF) analysis, nerve conduction velocity (NCV)/EMG studies, and autoimmune neuropathy antibody panels, and received intravenous immunoglobulin (IVIg), methylprednisolone, and rituximab.
Results: Case 1: dual co-positivity for Neurofascin-186 (454 ng/mL; Normal range-0-366ng/ml) and GAD65 (40 IU/mL; positive ≥10 IU/ml). Case 2: co-positivity for Neurofascin-155 (350 ng/mL; normal 0-232ng/ml) and Sulfatide IgM (272 ng/mL; Normal 0-221ng/ml). Case 3: Neurofascin-186,positive-498 ng/mL(Normal range-0-366ng/ml). Early immunomodulation with rapid rituximab escalation produced notable motor improvement in Cases 1 and 3, and partial recovery (3/5 power) in Case 2.However, in Case 3, pain and autonomic dysfunction remained refractory to rituximab despite motor recovery.
Conclusion: Nodoparanodal antibody-associated neuropathies show a wide phenotypic spectrum, from ALS-like amyotrophy (Nf186) to indolent demyelinating disease with fatigue (Nf155). Serial electrophysiology is a valuable bedside tool for unmasking progression when symptoms are atypical or mild. Early recognition of novel and co-positive antibody profiles

supports prompt immunotherapy escalation, though refractory and autonomic symptoms highlight the need of further therapeutic approach.
Disclosures: None.

P-32
Atypical Neuroimaging and Diagnostic Pitfalls in AQP4-IgG Positive Neuromyelitis Optica Spectrum Disorder: A Case Report
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Background: Neuromyelitis optica spectrum disorder (NMOSD) is a heterogeneous group of antibody-mediated CNS demyelinating disorder that can present atypically with diverse non neurological phenotype, delaying diagnosis and appropriate immunotherapy.
Objective: To report an atypical case of AQP4-IgG positive NMOSD, with initial presentation as gastrointestinal disorder, highlighting diagnostic challenges, potential misdiagnosis, clinic radiological mismatch, role of serology in clinching the diagnosis and the value of early immunotherapy.
Methods: A 48-year-old woman had episodic abdominal pain, nausea, recurrent vomiting, and hiccups (area postrema syndrome) one year earlier, investigated by gastroenterology, with abdominal paraesthesias/dysesthesias; symptoms resolved but hiccups persisted. In March 2026, she developed painless right-eye vision loss with dyschromatopsia and periorbital pain, given oral steroids without neuroimaging, with recovery in 3–4 days. In April 2026, she developed acute rapidly progressive lower-limb weakness preceded by backache, with urinary retention and a sensory level at D10–11. MRI showed juxtacortical, periventricular, and pericallosal brain lesions with subtle diffusion restriction and heterogeneous post-contrast enhancement, and a longitudinally extensive cord lesion from C6–D9 occupying more than 50% of the cross-sectional area without atrophy. CSF showed lymphocytic pleocytosis (TLC 40, 92% lymphocytes), raised protein (58.8 mg/dL), normal glucose, negative infectious workup, and negative oligoclonal bands/IgG index.
Results: Despite brain-MRI showing lesions more favouring MS and no lesion found in the area postrema region to commensurate with the diagnosis of Area postrema syndrome, fixed cell-based assay (CBA) tested positive for AQP4-IgG, establishing the diagnosis of NMOSD. Over one year, she had three relapses. After appropriate vaccination, she was started on rituximab, achieving near-complete neurological recovery, and remains stable without new deficits.
Conclusion: NMOSD can present with atypical clinical and radiological features mimicking other demyelinating disorders, and a negative area postrema lesion does not exclude the diagnosis. Cell-based assay is the gold-standard test for AQP4-IgG owing to higher sensitivity and specificity; and atypical MRI lesions can occur but sticking to the diagnostic algorithm is the key to the right and timely diagnosis. Prompt recognition and early rituximab administration can prevent long term disability in NMOSD.
Disclosures: None.

P-33

Not All PPMS Is Still PPMS: A Single-Centre Audit of Patients Meeting 2017 but Not 2024 McDonald Criteria

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Background: The 2024 McDonald criteria enable earlier MS diagnosis and introduce a unified framework across relapsing-remitting and primary progressive MS (PPMS). However, stricter requirements for some patients mean those meeting the 2017 PPMS criteria may not satisfy the 2024 criteria at presentation or may require a lumbar puncture. The frequency of this in clinical practice is currently unknown.

Objective: To determine the proportion of patients with an established PPMS diagnosis under the 2017 McDonald criteria who would not satisfy the revised 2024 criteria at the time of their diagnosis.

Methods: Retrospective review was performed at the Royal Hobart Hospital. 48 patients with PPMS were assessed against both the 2017 McDonald criteria and the revised 2024 criteria using clinical, radiological, and paraclinical data available at the time of diagnosis.

Results: Of 64 patients, 54 (84.4%) satisfied both the 2017 and 2024 McDonald criteria for PPMS. Eight patients (12.5%) met the 2017 criteria but did not fulfil the 2024 criteria at the time of diagnosis. Two patients (3.1%) satisfied the 2024 but not the 2017 criteria. Among the eight patients meeting the 2017 but not the 2024 criteria, one patient had CSF analysis demonstrating matched serum and CSF oligoclonal bands (OCBs). Additionally, susceptibility-weighted imaging (SWI) in this patient did not demonstrate a central vein sign (CVS) or paramagnetic rim lesion (PRL), and therefore the patient would not have fulfilled the 2024 criteria. The remaining seven patients did not undergo CSF investigation at the time of diagnosis because they had already satisfied the 2017 criteria without requiring CSF. SWI was performed in some of these patients and did not demonstrate PRL or CVS.

Conclusion: One in eight patients with an established PPMS diagnosis under the 2017 criteria did not meet the 2024 criteria, largely due to the absence of CSF analysis, which had not been required previously. These findings suggest the 2024 revisions may increase the need for lumbar puncture, potentially delaying diagnosis and access to disease-modifying therapy.

Disclosures: Nil

P-34

Withdrawn

POSTER SESSION - 4

Neuroimaging and Neurophysiology

P-35

Agrypnia Excitata in Morvan Syndrome

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Background: Agrypnia excitata is a rare neuropsychiatric syndrome characterised by insomnia, motor and autonomic hyperactivity, oneiric stupor and profound disruption of sleep architecture.

Objective: To describe a rare case of agrypnia excitata in Morvan syndrome and highlight its diagnostic implications.
Methods: A 53-year-old man with generalised myasthenia gravis and relapsed metastatic thymoma developed severe postoperative pain after thymoma resection, followed by insomnia, orthostatic tremor, hyperhidrosis and generalized pruritus with dysesthesia. Symptoms progressed to quasi-purposeful sleep behaviours, agitation, delusions, myokymia, gait instability, orthostatic hypotension and hyponatremia. His thymoma had initially been treated with thymectomy, radiotherapy, lobectomy for pleural metastasis and repeat resection for mediastinal recurrence. Neurological symptoms developed in the absence of radiological evidence of residual or recurrent tumour, before adjuvant chemotherapy (carboplatin, paclitaxel) and radiotherapy, and progressed despite oncological treatment.
Results: Examination revealed lower limb myokymia, orthostatic tremor, and gait instability. Electromyography revealed myokymic discharges and tilt testing demonstrated orthostatic hypotension with tachycardia. Video-polysomnography showed severely reduced sleep efficiency of 8.1%, fragmented sleep architecture with absent N3/REM sleep, and frequent stereotyped movements. Brain magnetic resonance imaging and cerebrospinal fluid studies (including cytology) were unremarkable. Serum CASPR2 (1:100) and LGI1 antibodies returned positive, consistent with Morvan Syndrome with agrypnia excitata. The patient received pulsed intravenous methylprednisolone followed by intravenous immunoglobulin with no clinical response. Rituximab was subsequently initiated with complete resolution of symptoms and improvement in modified Rankin Scale (mRS) from 4 to 0, three weeks after rituximab initiation. At 6 months, he remained relapse-free with no thymoma recurrence and seroreversion of both CASPR2 and LGI1 antibodies.
Conclusion: Recognition of agrypnia excitata should prompt CASPR2/LGI1 antibody testing, malignancy screening (particularly thymoma) and early immunotherapy. Management includes treatment of any associated malignancy and long-term surveillance, as relapses may require repeat tumor screening and immunotherapy.
Disclosures: The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

P-36
Validation of the 2024 McDonald Criteria for Multiple Sclerosis: Improved Diagnostic Accuracy and Earlier Diagnosis in a Large Thai Cohort
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Refer to O-6 in Plenary Oral Presentation – 2

P-37
Relapsing Independent Disease Activity in NMOSD and B cell therapy: A longitudinal OCT study
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Background: Relapse-independent disease activity (RIDA) has been increasingly recognized in neuromyelitis optica spectrum disorder (NMOSD), yet its clinical determinants and whether B-cell depleting therapy (BCDT) is associated with this process remain unclear.
Objective: To characterize RIDA and evaluate the effect of BCDT on RIDA in AQP4-IgG positive NMOSD using longitudinal optical coherence tomography (OCT).
Methods: Retrospective multicentre cohort study involving 6 tertiary hospitals in South Korea. A total of 263 eyes from 139 patients with AQP4-IgG positive NMOSD with serial OCT measurements were analyzed. Data were collected from August 2011 through July 2025. B-cell depleting therapy, modelled as a time-varying covariate and, for timing analyses, categorized as early (initiated <1 year from onset), late (≥1 year), or never. Longitudinal trajectories of peripapillary retinal nerve fibre layer (RNFL), macular ganglion cell–inner plexiform layer (GCIPL), and macular thickness z-scores derived from Korean normative data, and visual acuity in logMAR. Trajectories were analyzed with linear mixed-effects models including random intercepts and slopes for each eye, with BCDT entered as a time-varying covariate. Each OCT measurement was classified as occurring within or beyond 3 years from disease onset, a threshold identified by a sliding-window analysis of instantaneous z-score slopes across the disease course, and separate models were fitted for each phase. Determinants of the post-3-year rate of change were examined by linear regression of per-eye slopes, with variables showing univariable $P < .20$ entered into multivariable models.
Results: RNFL (−0.024/yr; 95% CI,−0.040 to −0.008;p=.004) and GCIPL z-scores (−0.016/yr;95% CI, −0.024 to −0.007;p<.001) declined significantly, and VA deteriorated modestly (+0.005 logMAR/yr;p=.047). This decline was confined to the first 3 years from onset (RNFL, −0.122/yr; GCIPL, −0.106/yr; macular thickness, −0.106/yr;all p<.01), with no significant change thereafter (all p>.05). Conversely, VA was stable within 3 years but declined beyond 3 years (+0.012 logMAR/yr;p=.046), particularly in ON-affected eyes (+0.023/yr;p=.007). In multivariable regression, BCDT initiation within 1 year was the strongest predictor of attenuated GCIPL thinning (β=+0.127 z-score/yr;p<.001). BCDT slowed GCIPL thinning in all eyes (Δβ=+0.193 µm/yr;p<.001) and especially in ON-affected eyes (Δβ=+0.287 µm/yr;p=.001), with greater attenuation within 3 years (Δβ=+0.756 µm/yr;p=.020) that persisted thereafter (Δβ=+0.120 µm/yr;p=.047). Within 3 years, BCDT also reduced VA deterioration (Δβ=−0.054 logMAR/yr;p=.045).
Conclusion: In AQP4-IgG positive NMOSD, RIDA predominantly affects the ganglion cell layer and is most active within 3 years of disease onset. BCDT was associated with slow GCIPL thinning rate throughout the disease course and with VA preservation during the early disease

phase, suggesting that prompt BCDT initiation may protect against progressive retinal neurodegeneration beyond attack prevention.

Disclosures: Kwon received a grant from the National Research Foundation of Korea, Eisai, and Korean Neurological Association; lectured, consulted, and received honoraria from Celltrion, Eisai, GC Pharma, Merck Serono, Roche, Sanofi Genzyme and CorestemChemon. Min is funded by and has received research support from the National Research Foundation of Korea (MIST and KHIDI) and SMC Research and Development Grant. She has lectured, consulted and received honoraria from Bayer Healthcare, Merk, Biogen Idec, Sanofi, UCB, Samsung Bioepis, Mitsubishi Tanabe, Celltrion, Roche, Janssen, and AstraZeneca. S-M. Kim has lectured, consulted, and received honoraria from Bayer Schering Pharma, Genzyme, Merck Serono, and UCB; received a grant from the National Research Foundation of Korea and the Korea Health Industry Development Institute Research; is an Associate Editor of the Journal of Clinical Neurology. S-M. Kim and Seoul National University Hospital has transferred the technology of flow cytometric autoantibody assay to EONE Laboratory, Korea. This research was supported by a grant of Patient-Centered Clinical Research Coordinating Center (PACEN) funded by the Ministry of Health & Welfare, Republic of Korea (grant number: RS-2025-02304254).

P-38

Cerebral Foreign-Body Inflammation Following Non-Target Embolization with Trisacryl Gelatin Microspheres: A Case of Recurrent Intracerebral Haemorrhage

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Background: The use of microsphere embolization has increased in recent years. Although non-target embolization is a recognised complication, cerebral foreign-body inflammatory reactions have not been reported.

Objective: We describe a case of non-target microsphere embolization resulting in ischemic stroke followed by recurrent intracerebral haemorrhages, likely secondary to an inflammatory foreign-body reaction.

Methods: A 58-year-old man with diabetes mellitus, hyperlipidemia, and a retrosternal goitre underwent thyroid artery embolization using 300–500 µm trisacryl gelatin microspheres (Embosphere®). Immediately after the procedure, he developed confusion and left-sided weakness. Brain magnetic resonance imaging (MRI) demonstrated multifocal acute infarcts involving both the anterior and posterior circulations, consistent with non-target cerebral embolization. He was treated with dual antiplatelet therapy (aspirin and clopidogrel). On day 3, he developed new right-sided weakness, and computed tomography (CT) demonstrated intracerebral haemorrhages in the left parietal and right parieto-occipital lobes. Despite discontinuation of antiplatelet therapy, the haemorrhages enlarged by day 5, with a new right frontal haemorrhage developing on day 17. MRI demonstrated marked vasogenic oedema disproportionate to the haemorrhage burden.

Results: A cerebral foreign-body inflammatory reaction to trisacryl gelatin microspheres was suspected. Treatment with intravenous methylprednisolone (1 g/day for 3 days), followed by a short oral prednisolone taper, resulted in marked clinical and radiological improvement.

The atypical clinical course, including recurrent intracerebral haemorrhages after small infarcts despite cessation of antiplatelet therapy and disproportionate vasogenic oedema suggested a possible foreign-body inflammation process. Animal studies have demonstrated inflammatory responses to trisacryl gelatin microspheres, and the favourable response to corticosteroids in our patient provides indirect clinical support for this mechanism.
Conclusion: This is the first reported case of cerebral foreign-body inflammation resulting in intracranial haemorrhages following non-target embolization with trisacryl gelatin microspheres. Clinicians should exercise caution with antithrombotic therapy and maintain close surveillance for early and delayed haemorrhagic complications. Corticosteroid therapy may be a potential therapeutic option.
Disclosures: Nil

P-39
The Diagnostic Shake-Up: LGI1 Encephalitis Masquerading as Limb-Shaking TIA
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Background: Leucine-rich glioma-inactivated 1 (LGI1) encephalitis commonly presents with faciobrachial dystonic seizures (FBDS), cognitive symptoms, and hyponatremia. However, seizure semiology can be heterogeneous and mimic other neurological disorders, resulting in diagnostic delay.
Objective: To describe a case of LGI1 encephalitis initially misdiagnosed as limb-shaking transient ischemic attack (TIA) due to coexisting severe middle cerebral artery (MCA) stenosis.
Methods: A previously well 69-year-old woman presented with recurrent brief episodes of right upper limb tremulous movements followed by transient weakness. Magnetic resonance imaging (MRI) demonstrated severe left middle cerebral artery (MCA) stenosis and she was initially diagnosed with limb-shaking transient ischemic attack (TIA). Due to progression of symptom, repeat MRI was performed 2 weeks later, revealing new left hippocampal and basal ganglia T2-hyperintensities, whereas the electroencephalogram was normal. Cerebrospinal fluid analysis showed mildly elevated protein, and anti-LGI1 antibodies were detected in both serum and cerebrospinal fluid. Retrospective review of the initial MRI identified a subtle area of restricted diffusion in the left basal ganglia.
Results: Treatment with levetiracetam and intravenous methylprednisolone, followed by oral prednisolone, resulted in resolution of the involuntary movements. Mycophenolate mofetil was commenced as maintenance immunotherapy. Unfortunately, the patient subsequently developed a left MCA territory infarct following postnasal biopsy performed as part of the malignancy workup, likely due to hypoperfusion from biopsy-site bleeding in the setting of severe MCA stenosis. At 9-month follow-up, she had significant neurological recovery and no evidence of LGI1 encephalitis relapse.
Conclusion: This case highlights the diagnostic complexity of LGI1 encephalitis when confounded by concurrent severe MCA stenosis mimicking limb-shaking TIA. Recognition of atypical seizure semiology beyond classic FBDS and careful assessment for basal ganglia abnormalities may facilitate earlier diagnosis and prompt immunotherapy.
Disclosures: Nil

P-40

Aquaporin-4 Immunoglobulin G-Positive Neuromyelitis Optica Spectrum Disorder with Short-Segment Cervical Myelitis and Positive Cerebrospinal Fluid Oligoclonal Bands

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Background: Neuromyelitis optica spectrum disorder (NMOSD) is an autoimmune astrocytopathy classically presenting with longitudinally extensive transverse myelitis. However, short-segment myelitis and positive cerebrospinal fluid oligoclonal bands may mimic multiple sclerosis, creating a diagnostic challenge and potentially delaying appropriate treatment.

Objective: To report an atypical case of aquaporin-4 immunoglobulin G-positive neuromyelitis optica spectrum disorder in a Filipino patient presenting with short-segment cervical myelitis and positive cerebrospinal fluid oligoclonal bands.

Methods: A 39-year-old Filipino female presented with a two-week history of progressive left upper extremity numbness and weakness. The illness began with acute-onset paresthesia involving the left hand, followed by recurrent shooting pain radiating from the left shoulder to the fingers. Over the succeeding two weeks, she developed progressive left upper extremity weakness and subsequently experienced intermittent right upper extremity paresthesia and transient bilateral blurring of vision. Neurological examination demonstrated grade 4/5 left upper extremity weakness, left brachioradialis hyperreflexia, and left upper extremity hypoesthesia. Neuro-ophthalmologic examination revealed no optic neuritis. Magnetic resonance imaging (MRI) of the cervical spine revealed a short-segment T2-hyperintense intramedullary lesion extending from C4 to C6, while contrast-enhanced brain and orbital MRI showed no demyelinating lesions. Cerebrospinal fluid analysis demonstrated mildly elevated protein (54.6 mg/dL) and positive oligoclonal IgG bands. Serum testing was positive for anti-aquaporin-4 immunoglobulin G (AQP4-IgG) and negative for myelin oligodendrocyte glycoprotein immunoglobulin G (MOG-IgG), establishing the diagnosis of AQP4-IgG-positive neuromyelitis optica spectrum disorder.

Results: The patient was treated with intravenous methylprednisolone 1 g daily for 5 days, followed by an oral prednisone taper, with plans to initiate rituximab as maintenance immunotherapy. She demonstrated gradual neurological improvement, with improved left upper extremity strength and reduced sensory deficits at the 1-month follow-up.

Conclusion: This case expands the clinicoradioserologic spectrum of aquaporin-4 immunoglobulin G-positive neuromyelitis optica spectrum disorder by demonstrating that the disease may present with short-segment cervical myelitis and positive cerebrospinal fluid oligoclonal bands. Recognition of these uncommon features may improve diagnostic accuracy and reduce delays in initiating treatment.

Disclosures: None.

P-41

Refractory Headache with Diffuse Leptomeningeal Enhancement as an Atypical Presentation of MOGAD

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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) may involve the cortex and meninges, but most reported meningitis-like presentations include fever, cerebrospinal fluid pleocytosis, seizures, encephalopathy, or cortical lesions. Isolated leptomeningeal enhancement with refractory headache alone has rarely been described.
Objective: To describe an atypical MOG-IgG–associated presentation characterized by severe refractory headache and diffuse leptomeningeal enhancement without cerebrospinal fluid pleocytosis, encephalopathy, seizures, optic neuritis, myelitis, or cortical involvement.
Methods: A 54-year-old woman presented with a severe bilateral temporal "bursting" headache lasting two weeks, accompanied by nausea, vomiting, and mild neck stiffness. She had no fever, visual symptoms, seizures, altered mental status, or focal deficits. Initial computed tomography, brain MRI, and magnetic resonance angiography were unrevealing except for mild middle cerebral artery stenosis. Reversible cerebral vasoconstriction syndrome was considered, but nimodipine was ineffective. Cerebrospinal fluid opening pressure was 200 mmH2O, with 1 white blood cell/μL, protein 34 mg/dL, and glucose 53.9 mg/dL. Inflammatory markers were normal, and transcranial Doppler showed no vasospasm. Gadolinium-enhanced MRI with post-contrast FLAIR demonstrated diffuse linear leptomeningeal enhancement along both cerebral sulci, most prominently in the parieto-temporo-occipital regions. Delayed FLAIR at six hours showed persistent sulcal hyperintensity. Serum MOG-IgG was tested using a live cell-based assay; aquaporin-4-IgG, ophthalmologic examination, and visual evoked potentials were also assessed.
Results: Serum MOG-IgG was positive with a mean fluorescence intensity ratio of 3.58, whereas aquaporin-4-IgG was negative. No evidence of optic neuritis, subclinical visual pathway involvement, myelitis, increased intracranial pressure, infection, or systemic inflammation was identified. A MOG-IgG–associated meningeal inflammatory presentation was suspected. Intravenous methylprednisolone 500 mg/day for three days followed by an oral prednisolone taper produced marked improvement of the headache. No recurrence or additional demyelinating manifestations occurred during more than two months of follow-up on low-dose corticosteroids. Repeat MOG-IgG remained positive at two months, with a mean fluorescence intensity ratio of 3.55.
Conclusion: MOG-IgG–associated inflammation may present as isolated diffuse leptomeningeal enhancement with severe refractory headache, even without cerebrospinal fluid pleocytosis, encephalopathy, seizures, or cortical lesions. MOG-IgG testing may be considered in selected unexplained cases, with longitudinal follow-up for later demyelinating events.
Disclosures: None.

P-42
Immune Reconstitution-Associated Transverse Myelitis After Tacrolimus Withdrawal Following Allogeneic Stem Cell Transplantation
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Background: Acute myelopathy after allogeneic hematopoietic stem cell transplantation has a broad differential diagnosis, including infection, drug toxicity, relapse, and immune-mediated inflammation. Neurological complications related to immune restoration after

calcineurin inhibitor withdrawal are rare and may be difficult to distinguish from other post-transplant myelopathies.
Objective: To describe a case of inflammatory transverse myelitis developing shortly after tacrolimus discontinuation in an acute myeloid leukaemia patient following allogeneic stem cell transplantation, and to highlight its possible association with immune reconstitution.
Methods: A 63-year-old woman with acute myeloid leukaemia underwent matched unrelated donor allogeneic peripheral blood stem cell transplantation. Tacrolimus was discontinued after mixed chimerism was detected despite negative morphologic, flow cytometric, and molecular evidence of relapse. Three weeks later, she developed bilateral leg paresthesia, weakness, gait instability, urinary urgency, and incomplete bladder emptying. Neurological examination showed symmetric lower-extremity weakness, a mid-thoracic sensory level, and mild spasticity. Spinal MRI demonstrated multifocal ill-defined thoracic cord T2 hyperintense lesions with subtle enhancement. Brain MRI was unremarkable. Cerebrospinal fluid, infectious studies, cytology, AQP4-IgG, MOG-IgG, and paraneoplastic antibodies were assessed.
Somatosensory evoked potentials and nerve conduction studies were performed. She received intravenous methylprednisolone for five days followed by an oral corticosteroid taper.
Results: Cerebrospinal fluid showed elevated protein and mild pleocytosis, while cytology and viral PCR, including CMV, were negative. AQP4-IgG, MOG-IgG, and paraneoplastic antibodies were also negative. Somatosensory evoked potentials showed prolonged central conduction times consistent with dorsal column dysfunction. Symptoms stabilized within one week of corticosteroid treatment, and lower-extremity strength gradually improved. At two months, she regained independent ambulation with mild residual imbalance, and follow-up evoked potentials showed partial improvement. Low-dose tacrolimus was reintroduced, and no recurrence occurred. The temporal relationship to tacrolimus withdrawal, inflammatory findings, exclusion of alternative causes, and steroid responsiveness supported immune reconstitution-associated transverse myelitis.
Conclusion: Immune reconstitution-associated transverse myelitis should be considered in allo-HSCT recipients who develop subacute myelopathy after calcineurin inhibitor withdrawal. Early MRI, cerebrospinal fluid analysis, and exclusion of infectious, autoimmune, paraneoplastic, and relapsing disease are essential. Prompt corticosteroid treatment may allow meaningful neurological recovery.
Disclosures: None.

P-43
Neuro-Sweet Syndrome with Brainstem Involvement Mimicking Inflammatory Brainstem Disease
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Background: Neuro-Sweet syndrome (NSS) is a rare neurological manifestation of Sweet syndrome characterized by sterile neutrophilic inflammation involving the central nervous system. Because its clinical and radiological features may resemble inflammatory demyelinating disorders, early recognition is essential for appropriate management.
Objective: To describe the clinical, radiological, and pathological findings of a patient with Neuro-Sweet syndrome presenting with inflammatory brainstem lesions and to emphasize its importance in the differential diagnosis of neuroinflammatory diseases.

Methods: We report the clinical presentation, neuroimaging, cerebrospinal fluid analysis, histopathological findings, treatment, and follow-up of a 41-year-old woman who developed neurological symptoms following febrile neutrophilic dermatosis.
Results: The patient presented with fever, painful erythematous skin lesions, dizziness, gait instability, and dysarthria after an upper respiratory tract infection. Brain MRI demonstrated a contrast-enhancing T2-hyperintense lesion in the anterior pons with diffusion restriction and additional supratentorial subcortical white matter lesions. Cerebrospinal fluid showed mildly elevated protein levels without pleocytosis. Extensive investigations excluded infectious, autoimmune, rheumatologic, and neoplastic etiologies. Skin biopsy revealed dense neutrophilic dermal infiltration without vasculitis, confirming Sweet syndrome. Based on the combination of neurological manifestations and histopathological findings, Neuro-Sweet syndrome was diagnosed. High-dose intravenous corticosteroid therapy resulted in complete neurological recovery, and follow-up MRI one month later demonstrated marked regression of the brain lesions.
Conclusion: Neuro-Sweet syndrome should be considered in patients presenting with steroid-responsive inflammatory brainstem lesions accompanied by characteristic cutaneous manifestations. Histopathological confirmation of Sweet syndrome is crucial for distinguishing NSS from demyelinating diseases and neuro-Behçet disease. Early diagnosis allows prompt corticosteroid treatment and may prevent unnecessary inve *Editors Note – information provided by author incomplete.*
Disclosures: no

P-44
Chronic Progressive Myelopathy as a Presentation of MOG Antibody-Associated Disease and Coexistence with Psoriasis: A Case Report and Systematic Literature Review
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Background: A chronic progressive neurological decline is considered uncommon in MOG antibody-associated disease (MOGAD). Similarly, the coexistence of other autoimmune disorders is less frequently reported in MOGAD. We report a case of MOGAD with a chronic progressive course and coexistent psoriasis.
Objective: To describe the clinical and neuroimaging features of MOGAD presenting as chronic progressive myelopathy in a patient with psoriasis and to systematically review published reports of psoriasis–MOGAD coexistence.
Methods: Case description with clinical, magnetic resonance imaging (MRI), cerebrospinal fluid (CSF), and serological data with MOG-IgG confirmed using a live cell-based assay was done. PubMed and PubMed Central were systematically searched for reports of psoriasis or psoriasiform disease in MOGAD, supplemented by backward citation tracking. Patient-level reports were analysed descriptively and separately from cohort-level comorbidity data.
Results: A 69year old man presented with four years of progressive spastic paraparesis, a T12 sensory level and bladder dysfunction despite C4–C5 decompression for compressive myelopathy. MRI showed a non-enhancing T10–T11 intramedullary lesion. Evaluation for vascular, infectious, neoplastic and systemic inflammatory causes was normal. CSF was acellular with elevated protein(61mg/dL) and positive oligoclonal bands(type-2). Serum AQP4-IgG was negative, whereas MOG-IgG was positive at ≥1:2560 by live cell-based assay. IVIG induction followed by monthly maintenance improved him from bedbound to walker-assisted ambulation over three months, with titre reduction to 1:320. The review identified four

patient-level reports and four cohorts. Psoriasis occurred in 4/144 patients in MOGADOR, 1/8 in a Belgian cohort and one in a Japanese–German cohort. Coexistence may reflect shared Th17/IL-6-mediated inflammation. TNF-α inhibitors should generally be avoided because of their association with CNS demyelination.
Conclusion: MOGAD can rarely present as chronic progressive myelopathy and may coexist with psoriasis. Recognising this combination is important because it may influence therapeutic decisions.
Disclosures: No conflict of interest or disclosures by any of the authors

P-45
Is There a Parallelism Between Cranial Somatosensory Evoked Potentials Data and VAS in Trigeminal Neuralgia Cases in MS Patients?
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Background: Trigeminal neuralgia (TN) occurs in approximately 2% to 5% of patients with multiple sclerosis (MS) and causes a profound deterioration in quality of life.
The underlying pathophysiology frequently involves MS plaques affecting the central myelin-coated root entry zone (REZ) of the trigeminal nerve at the pontine level. Although cranial somatosensory evoked potentials (tSEP) can detect subclinical sensory pathway involvement with reported abnormalities in 40% to 80% of MS patients, monitoring pain severity remains clinically challenging due to the subjective nature of pain scales such as the Visual Analog Scale (VAS).
Establishing an objective neurophysiological biomarker that parallels clinical pain dynamics is therefore of paramount importance.
Objective: This study aims to investigate whether longitudinal changes in tSEP parameters (specifically wave latency and morphology) parallel changes in pain severity assessed by VAS in MS patients with trigeminal neuralgia over a 12-month follow-up period.
Methods: Fourteen MS patients and together with TN were followed up at baseline, 6, and 12 months. tSEP data were collected at all three-time intervals and recorded by microanalysis (at the Bioinformation Laboratory, Faculty of Engineering, Selçuk University). Visual analog scores (VAS) were also obtained at 0, 6, and 12 months, regardless of the medications the patients received.
Results: The correlation between changes in N1 and P1 wave latency values of tSEP and VAS scores was examined in 14 patients. Eight patients (57.1%) showed a decrease of 4 or more in VAS scores; a significant shortening of 0.3 ms or more was observed in the P1 wave latency. These data showed greater similarity to contralateral tSEP data. This similarity was observed in wave morphology as well as wave latency shortening. If the VAS score changed by less than 4 in the first 6 months (42.9%, n=6), no significant change was observed in tSEP data.
Conclusion: The findings support the idea that tSEP analysis may be a useful parameter for monitoring pain changes in MS patients with TN. It may also play a role in monitoring invasive and non-invasive procedures.
Disclosures: none

P-46

Brain Volumetric Changes in Neuropsychiatric Systemic Lupus Erythematosus: A Quantitative MRI Study

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Background: Neuropsychiatric systemic lupus erythematosus (NPSLE) is associated with substantial neurological morbidity, but conventional magnetic resonance imaging (MRI) often underestimates structural brain involvement. Quantitative MRI volumetry may detect subtle brain changes that better reflect disease burden.

Objective: To compare global and regional brain volumes among patients with NPSLE, non-neuropsychiatric systemic lupus erythematosus (non-NPSLE), and matched healthy controls using automated MRI volumetric analysis.

Methods: We conducted a retrospective single-centre study of adults who underwent brain MRI at Siriraj Hospital between 2017 and 2026. Participants were classified as NPSLE, non-NPSLE, or healthy controls. High-resolution T1-weighted MRI scans were analysed using FreeSurfer for automated brain segmentation. Global and regional brain volumes were normalised to intracranial volume before between-group comparisons.

Results: Sixty-four participants were included (13 NPSLE, 19 non-NPSLE, and 32 healthy controls). Whole-brain volume did not differ significantly among the NPSLE, non-NPSLE, and healthy control groups (990,349, 939,902, and 997,526 mm^3, respectively; P=0.161). Compared with healthy controls, patients with NPSLE demonstrated significantly reduced bilateral hippocampal (right: 3,746, 4,001, and 4,260 mm^3; left: 3,768, 3,881, and 4,096 mm^3), cerebellar white matter (right: 12,701, 13,767, and 14,584 mm^3; left: 12,535, 13,982, and 14,697 mm^3), brainstem (17991, 18592, and 19692 mm^3), and left nucleus accumbens volumes (573, 528, and 614 mm^3) (all $P<0.05$). Patients with non-NPSLE exhibited significantly smaller bilateral hippocampal, brainstem, cortical grey matter, total grey matter, left nucleus accumbens, and right amygdala volumes, as well as enlarged inferior lateral ventricles ($P<0.05$). No significant regional volumetric differences were observed between the NPSLE and non-NPSLE groups.

Conclusion: Patients with NPSLE demonstrate selective regional brain atrophy despite preserved global brain volume. Similar abnormalities in non-NPSLE suggest that structural brain involvement may extend beyond clinically apparent neuropsychiatric disease. Quantitative MRI volumetry may provide a sensitive imaging tool for characterising central nervous system involvement in SLE.

Disclosures: None.

P-47

Revising a Diagnosis of Multiple Sclerosis: Painful Tonic Spasms Unmasking Double-Seronegative NMOSD

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Background: Neuromyelitis optica spectrum disorder (NMOSD) must be distinguished from multiple sclerosis (MS), because several MS disease-modifying therapies, including dimethyl fumarate, are ineffective or harmful in NMOSD. Painful tonic spasms (PTS) are commoner in NMOSD than MS and are readily mistaken for focal seizures.

Objective: To describe a patient treated as relapsing-remitting MS in whom PTS, longitudinally extensive transverse myelitis (LETM) and an acute brainstem syndrome prompted reclassification as double-seronegative NMOSD.

Methods: We reviewed the four-year course, serial magnetic resonance imaging (MRI), cerebrospinal fluid (CSF), antibodies and treatment response.

Results: A 43-year-old woman with cervical myelitis was treated as relapsing-remitting MS with dimethyl fumarate; painful dystonic contractions were ascribed to epilepsia partialis continua. In 2025 she developed frequent PTS, tetraparesis, dysarthria, right abduction palsy, facial sensory loss, and intractable hiccups, nausea and vomiting. MRI showed non-enhancing T1-T5 LETM and enlarging lower medullary and cervical lesions with bright spotty lesions, without Dawson's fingers. CSF lacked oligoclonal bands; aquaporin-4 and myelin oligodendrocyte glycoprotein antibodies were negative by cell-based assays. LETM and acute brainstem syndrome met the 2015 criteria for aquaporin-4-antibody-negative NMOSD. Methylprednisolone produced an incomplete response; ten plasma exchanges followed. Oxcarbazepine controlled PTS; withdrawal increased spasms, which settled on reintroduction. Dimethyl fumarate was stopped. New diencephalic and thoracic lesions and a further relapse confirmed relapsing NMOSD.

Conclusion: PTS accompanying LETM should prompt reconsideration of an established MS diagnosis, even when both antibodies are negative and especially when the spasms have been ascribed to seizures, avoiding unsuitable therapy.

Disclosures: The authors declare no conflicts of interest.

P-48

Bilateral Sacroiliitis Mimicking Acute Transverse Myelitis: A Diagnostic Challenge in a Young Woman

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Background: Acute transverse myelitis (ATM) is a neurological emergency characterised by acute motor, sensory, and autonomic dysfunction. However, extra-spinal inflammatory disorders may rarely mimic ATM, creating diagnostic challenges and potentially leading to unnecessary investigations or immunotherapy.

Objective: To describe a young woman with bilateral sacroiliitis presenting with clinical features highly suggestive of ATM.

Methods: Case report.

Results: A 19-year-old woman was referred from a regional public hospital with suspected ATM. She initially presented with acute fever followed by progressive bilateral lower-limb weakness and urinary and bowel retention. Intravenous methylprednisolone pulse therapy before referral showed no significant clinical improvement. Repeat history revealed severe bilateral lumbogluteal pain radiating to both legs, worse on the left. Neurological examination demonstrated left-predominant pain-limited weakness, preserved deep tendon reflexes, absent pathological reflexes, left-sided superficial and proprioceptive sensory impairment, autonomic dysfunction, and positive left Patrick and contra-Patrick tests. Thoracolumbar gadolinium-enhanced Magnetic Resonance Imaging (MRI) and Cerebrospinal Fluid (CSF) findings were normal. As inflammatory myelopathy was not supported and sacroiliac provocation tests were positive, pelvic radiography revealed bilateral sacroiliitis (grade I right, grade II left).
Conclusion: Bilateral sacroiliitis is an uncommon but important differential diagnosis of suspected ATM, as it may present with acute lower limb weakness and autonomic dysfunction. When spinal MRI and CSF are non-supportive, sacroiliac provocation tests and pelvic imaging should be performed to confirm the diagnosis and avoid unnecessary immunotherapy.
Disclosures: None

P-49
An atypical first presentation of MOGAD in a patient with Sjogren's on chronic immunosuppression
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Background: The clinical manifestations of myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) is highly variable ranging from optic neuritis, myelitis and various forms of encephalitis. MOGAD often presents in immunocompetent patients, although co-existence of systemic autoimmunity is not uncommon.
Objective: We report a case of an atypical first presentation of MOGAD in a middle-aged patient with a background of systemic autoimmunity on immunosuppressants including an anti-CD20 monoclonal antibody.
Methods: A 53-year-old female presented with a 2-week history of fever, generalized myalgia and urinary retention which then culminated into encephalopathy and dysphasia. She had a significant past medical history of rheumatoid arthritis (RA) with overlapping Sjogren's syndrome, for which she was on hydroxychloroquine, methotrexate and rituximab. Her last infusion of rituximab was administered 6 months prior to this presentation. Clinical examination revealed receptive and expressive dysphasia. Cerebrospinal fluid (CSF) analysis revealed pleocytosis with a white cell count of 118 cells/ µL. CSF-specific oligoclonal bands were not detected. Magnetic resonance imaging of the brain showed diffuse, ill-defined T2/FLAIR hyperintense lesions in the supratentorial and infratentorial white matter, including the brainstem, cerebellum, thalamus, temporal lobes, bilateral optic tracts and optic chiasm. No leptomeningeal enhancement was observed. MRI spine did not demonstrate any abnormal cord signal. Her CD19 count was 0.3% (3 cells/ µL). Extensive serum and cerebrospinal investigations were unremarkable for infections and malignancy. NeuroSjogren's was highly considered as the aetiology of her manifestations, before serum MOG IgG via fixed cell-based assay returned positive at 1:10 and 1:100 dilutions.
Results: The patient demonstrated multiple clinical and radiological manifestations of MOGAD including acute disseminated encephalomyelitis, brainstem syndrome and optic

neuritis. She was treated with intravenous methylprednisolone, immunoglobulins and plasmapheresis. As her encephalopathy and speech markedly improved with steroids, plasmapheresis was only administered for 2 sessions. She was then kept on a slow corticosteroid tapering regimen, with a plan to repeat the MOG-IgG serostatus and perform interval imaging. Her usual immunosuppressants for RA were also continued, with a plan to reintroduce rituximab or start tocilizumab as long-term treatment of MOGAD.
Conclusion: While it is known that MOGAD can co-exist with systemic autoimmunity, this case highlights an atypical presentation in a patient already on immunosuppressants. Careful selection of immunotherapy is important to concurrently treat the rheumatological disorder and to reduce risk of MOGAD relapse.
Disclosures: All authors report no conflict of interest.

P-50
Acute Diencephalic Syndrome as an Uncommon Presentation of Neuromyelitis Optica Spectrum Disorder: A Case Report
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Background: Neuromyelitis optica spectrum disorder (NMOSD) is a rare autoimmune astrocytopathy associated with anti-aquaporin-4 immunoglobulin G (AQP4-IgG). Diagnosis is based on core clinical features, AQP4-IgG serological testing, and supportive magnetic resonance imaging(MRI) findings. However, diencephalic involvement may present with atypical manifestations, posing diagnostic challenges.
Objective: To report a rare case of AQP4-IgG–positive NMOSD presenting with acute diencephalic syndrome manifested by hypersomnia, short-term memory impairment, and syndrome of inappropriate antidiuretic hormone secretion(SIADH), highlighting the importance of cell-based assay in patients with high clinical suspicion despite negative enzyme-linked immunosorbent assay(ELISA) results.
Methods: We reported a 21-year-old female presented with hypersomnia and short-term memory deficit for three weeks. Laboratory studies were remarkable for hyponatremia caused by SIADH. Brain MRI showed T2 hyperintensity over bilateral hypothalamus and mamillary body with minimal contrast enhancement. Cerebrospinal fluid analysis showed elevated IgG index of 1.11. Initial anti-AQP4 antibody testing with ELISA was negative. Panel for paraneoplastic neurologic syndromes and limbic encephalitis related antibodies were all negative. Serum anti-AQP4 antibody was positive after re-evaluated with a cell-based assay. As a result, a diagnosis of NMOSD was made according to the criteria published in 2015.
Results: The patient received methylprednisolone pulse therapy for 5 days, followed by rituximab induction therapy. 2 weeks after immunotherapy, hypersomnolence improved, with total sleep time decreasing from approximately 20 hours to 13 hours per day.
Conclusion: Acute diencephalic syndrome is an uncommon but recognized core clinical manifestation of NMOSD. This case highlights the limitations of ELISA for AQP4-IgG detection and emphasizes the value of cell-based assays in clinically suspected cases. Early recognition and prompt immunotherapy are essential for improving patient outcomes.
Disclosures: no conflict of interest

P-51

Extensive Cortical–Subcortical and Basal Ganglia MRI Abnormalities in Atezolizumab-Associated Encephalitis: A Fatal Case Report

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Background: Atezolizumab, an immune checkpoint inhibitor targeting programmed death-ligand 1, may rarely cause severe neurological immune-related adverse events, including encephalitis.

Objective: To report the clinical course and extensive magnetic resonance imaging findings of a patient with suspected atezolizumab-associated encephalitis.

Methods: A 58-year-old man with stage IV small-cell lung cancer, treated with radiotherapy followed by carboplatin, etoposide, and atezolizumab, was evaluated after 10 days of affective flattening, reduced verbal output, apathy, somnolence, poor oral intake, and progressive encephalopathy. Clinical, cerebrospinal fluid, neuroimaging, treatment, and outcome data were reviewed.

Results: Neurological examination initially revealed time disorientation, severe dysarthria, and myoclonus. Brain MRI demonstrated widespread multifocal T2-FLAIR hyperintensities involving the cortical and subcortical regions and basal ganglia, supporting a diffuse encephalitic process. Cerebrospinal fluid was acellular, with mildly elevated protein levels (63 mg/dL) and a glucose level of 80.5 mg/dL. Viral encephalitis testing was negative, and cerebrospinal fluid cytology was benign. Myoclonus was initially controlled with levetiracetam. Despite treatment with intravenous methylprednisolone at 1,000 mg/day, alternate-day plasma exchange, empirical intravenous acyclovir, and intravenous immunoglobulin at a total dose of 2 g/kg over five days, neurological improvement was not achieved. The patient subsequently developed right-sided focal myoclonic status epilepticus, required intubation and intensive care, and died after developing multiorgan failure.

Conclusion: Atezolizumab-associated encephalitis may present with rapidly progressive neuropsychiatric symptoms, myoclonus, status epilepticus, and extensive cortical–subcortical and basal ganglia abnormalities on MRI. Normal cerebrospinal fluid cell counts do not exclude the diagnosis. Early recognition and prompt immunotherapy are essential, although fulminant cases may remain refractory and fatal.

Disclosures: No conflict of interest

P-52

A Diagnostic Dilemma in Adult Tumefactive Demyelination: A Case Study

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Background: Tumefactive demyelinating lesions (TDL) are rare manifestations of central nervous system (CNS) inflammatory disease, defined by focal lesions >2 cm that radiologically mimic neoplasm with minimal mass effect. Often linked to multiple sclerosis (MS), they also occur in acute disseminated encephalomyelitis (ADEM) and antibody-mediated disorders, making diagnosis crucial for long-term immunotherapy.

Objective: Presenting a case of young adult with relapsing, corticosteroid-responsive neurological episodes and bilateral parietal TDL, discussing diagnostic challenges and the

importance of integrating serial neuroimaging while excluding infectious and neoplastic mimics.
Methods: Case report
Results: A 26-year-old Indonesian male with acute progressive bilateral limb weakness, diffuse face-sparing paraesthesia, diplopia, and disequilibrium one week after an influenza-like illness. Magnetic resonance imaging (MRI) suggested CNS demyelination, with symptoms improving after steroid. During 17 months of follow-up, he experienced three relapses of left facial paralysis and hemiparesis, responsive to steroid. Infection markers were not supporting active infection. Cerebrospinal fluid (CSF) showed elevated protein without microorganisms, while oligoclonal bands were detected in CSF and serum and serum myelin oligodendrocyte glycoprotein immunoglobulin G (MOG-IgG) was negative. Serial MRI revealed bilateral parietal TDLs atypical for MS or ADEM, with marked regression after six months of corticosteroid therapy. The absence of encephalopathy and atypical lesions complicated classification, requiring integration of serial MRI, laboratory biomarkers, and exclusion of alternative etiologies.
Conclusion: This case highlights a systematic approach diagnosing atypical tumefactive demyelination, emphasizing when clinical and imaging findings are inconclusive, comprehensive testing is essential for diagnosis and long-term immunotherapy.
Disclosures: The authors declare no conflicts of interest or financial disclosures.

P-53
Choroid Plexus-to-Total Intracranial Volume Ratio as a Potential Marker of Chronic Inflammation in Persons With Multiple Sclerosis Compared With Healthy Controls
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Background: The choroid plexus (ChP) forms the blood-CSF barrier, and has been implicated in neuroinflammation and immune-cell trafficking in multiple sclerosis (MS). ChP enlargement has been reported in MS, but its relationship to clinical disability and structural neurodegeneration remains unclear.
Objective: To quantify ChP/TIV(Choroid plexus/Total Intracranial Volume) ratio in MS versus healthy controls and to correlate with EDSS score.
Methods: We calculated the volume of ChP and other brain structures using non-contrast three-dimensional T1-weighted 1.5/3T-MRI images obtained at 1 mm isotropic resolution using SIGNA Architect, GE HealthCare. ChP was segmented with an automated deep-learning method (ChP_seg 1.0.1). TIV was estimated with SynthSeg, and ChP volume was TIV-normalised. Groups were compared using Mann-Whitney tests and models adjusted for age and sex. Spearman correlations, corrected for multiple comparisons (false discovery rate), related ChP/TIV to disability (Expanded Disability Status Scale, EDSS) and regional brain volumes.
Results: We evaluated the MRI images of 60 persons with MS(PwMS) and 57 healthy controls. ChP/TIV ratio was higher in MS than controls (median 1.96 vs 1.42 $\times 10^3$, $p<0.001$), after adjustment for age and gender. ChP/TIV ratio increased with age in both groups(overall rho=0.31;p=<0.001, control rho=0.38; p=0.003, MS rho=0.30 ;p=0.018). ChP/TIV ratio correlated with disability (EDSS rho=0.34, p=0.007) and not with disease duration (rho=0.19, p=0.141). ChP/TIV ratio was found to be closely related to total ventricular volume (rho=0.89)

and with thalamic, white-matter and global grey-matter atrophy ($p<0.001$). Greater disability on EDSS correlated with thalamic atrophy ($\rho=-0.40$), pallidal atrophy ($\rho=-0.38$) and ventricular enlargement ($\rho=+0.31$).
Conclusion: ChP/TIV ratio increased relative to healthy controls in PwMS, independent of age and sex and correlated with greater disability on EDSS. ChP/TIV ratio maybe considered as a chronic inflammatory marker in PwMS, however larger studies are needed to confirm the above observation.
Disclosures: No conflict of interest or Disclosures by any of the authors

P-54
IgG4-Related Disease Presenting With Progressive Bilateral Visual Loss, Hypertrophic Pachymeningitis, and Orbital Infiltration
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Background: Immunoglobulin G4-related disease (IgG4-RD) is a rare, immune-mediated, chronic fibroinflammatory disorder that can affect virtually any organ and frequently manifests as tumor-like lesions. Common manifestations include autoimmune pancreatitis, lymphadenopathy, sialadenitis, or dacryoadenitis. Neurological involvement is uncommon, with hypertrophic pachymeningitis and orbital disease representing two of the most frequently reported neurological manifestations.
Objective: A 68-year-old man presented with 30-year history of progressively blurred vision in both eyes, accompanied by chronic temporo-occipital headache. Visual acuity had deteriorated to total blindness in the left eye and light perception only in the right eye. Neurological examination revealed bilateral restriction of extraocular movements in all directions, complete left-sided ptosis, right-sided proptosis, and an absent direct pupillary light reflex in the left eye. There was no facial numbness, facial palsy, or limbs weakness.
Methods: Not applicable.
Results: Laboratory investigations showed persistently elevated serum IgG4 levels (352-512 mg/dL), increased IgG and IgE levels, and weak positive p-ANCA antibody. Brain MRI revealed diffuse pachymeningeal thickening and enhancement along the bilateral cerebral convexities, falx cerebri, tentorium cerebelli, and skull base. Orbital lesions involved the lacrimal gland and upper eyelid in right eye with mass effect causing medial deviation of optic nerve; and calcification in left orbital cavity and peri-orbital structures with mild deformity of the left eyeball. The diagnosis of IgG4-RD was established based on the integration of pathological findings from biopsy of the sinonasal lesion, radiological and serological findings. The patient received intravenous Decadron infusion for six days, followed by oral prednisolone at 1mg/Kg/day. Azathioprine will be subsequently initiated as maintenance treatment.
Conclusion: IgG4-RD should be considered in patients presenting with progressive visual loss. Recognition of concurrent pachymeningeal and orbital involvement may facilitate early diagnosis and prompt immunosuppressive treatment, thereby preventing irreversible visual loss and neurological disability.
Disclosures: The author has nothing to disclosures.

P-55

Baló-like Demyelination As An Inaugural Phenotype Of Relapsing-remitting Multiple Sclerosis With Three-year Image Evolution

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Background: This case report details a 23-year-old woman with a stroke-mimicking, Baló-like concentric demyelinating lesion, who was diagnosed with relapsing-remitting multiple sclerosis (RRMS). Through longitudinal MRI and clinical follow-up, the case illustrates such lesions can serve as the inaugural presentation of RRMS, requiring cerebrospinal fluid analysis and careful therapeutic management.

Objective: A 23-year-old woman with polycystic ovary syndrome and sudden left hearing loss in 2022 developed acute left-sided weakness in March 2023. The treating neurologist confirmed an Expanded Disability Status Scale (EDSS) score of 6.0 at the index presentation based on contemporaneous neurological findings.

Methods: Subsequent brain MRI with gadolinium demonstrated several T2-hyperintense enhancing lesions in the bilateral corona radiata and temporal white matter. The dominant right corona radiata/centrum semiovale lesion showed concentric lamellation with incomplete open-ring enhancement, favoring inflammatory demyelination. CSF analysis showed clear and colorless fluid, with red blood cell count 0/μL, white blood cell count 0/μL, total protein 19.1 mg/dL, glucose 52 mg/dL, lactate 1.2 mmol/L, adenosine deaminase (ADA) 2.0 U/L, and a negative Pandy test. OCBs were identified in CSF but absent in serum, indicating intrathecal immunoglobulin synthesis. Serum aquaporin-4 IgG and myelin oligodendrocyte glycoprotein IgG were negative. Whole-spine MRI showed no spinal cord lesion. Systemic autoimmune disease and malignancy were considered unlikely after rheumatological and oncological evaluation. After intravenous methylprednisolone, disability improved to EDSS 2.0. Early follow-up MRI/MR spectroscopy showed multifocal subcortical and periventricular white-matter lesions without enhancement or diffusion restriction, increased choline, and decreased perifocal edema around the Baló-like lesion.

Results: The index attack was treated with intravenous methylprednisolone 1000 mg/day for five days, followed by oral tapering, with substantial clinical improvement. DMT was discussed after the index attack. Dimethyl fumarate was initiated in June 2023 but discontinued because of intermittent abdominal pain. Ozanimod was started in July 2023 but was complicated by severe hair loss. Given radiological disease activity, intolerance to prior oral agents, preference for oral treatment, and future pregnancy planning, cladribine was selected for active relapsing MS after counselling regarding its short-course immune-reconstitution profile and the need for contraception during dosing and for 6 months after each treatment course. The first-year cladribine dosing was administered in two treatment weeks, from December 27 to December 30, 2024, and from January 27 to January 30, 2025.

Conclusion: Baló-like concentric demyelination can be the inaugural presentation of RRMS and may closely mimic ischemic stroke. In young patients with acute focal deficits, longitudinal MRI evolution and CSF-restricted OCBs are crucial for distinguishing RRMS with Baló-like features from monophasic BCS, MOGAD, NMOSD, infection, neoplasm, and infarction.

Disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

P-56

Understanding Tumefactive Demyelinating Lesions: Clinical Spectrum, Radiological Phenotypes, and Therapeutic Outcomes

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Background: Tumefactive demyelinating lesions (TDLs) constitute a rare but clinically significant variant of central nervous system inflammatory demyelinating disorders.
Objective: To characterize the etiological spectrum, imaging features, clinical course, and treatment response of patients presenting with Tumefactive demyelinating lesions.
Methods: This chart review from an institutional CNS demyelination registry included patients presenting with TDLs at a tertiary care university hospital between 2018 and 2023.
Results: 40 patients met the inclusion criteria (57.5% female; mean age 31 years). Cerebral symptoms predominated (95%), followed by brainstem involvement (12.5%), and optic neuritis (5%). Three patients (7.5%) had symptoms within 6 weeks of COVID-19 vaccination. MOG-IgG antibodies were detected in 10.3%. Solitary lesions occurred in 27.5%, with additional plaques in 72.5%; lesions were predominantly periventricular (95%) and parietal (87.5%). Brain biopsy confirmed inflammatory demyelination in 80% of the 10 patients biopsied. All received corticosteroids, 42.5% underwent plasma exchange, and 80% received long-term immunotherapy. Compared with non-MS patients (n=31), MS patients (n=9) more often lacked mass effect (p=0.016) and showed Balo's pattern (p=0.007), while solitary lesions were exclusive to non-MS (p=0.036). Absence of mass effect independently predicted MS (OR 0.07, p=0.038). MS patients showed better recovery, whereas residual motor deficits were more frequent in non-MS patients.
Conclusion: Tumefactive demyelinating lesions exhibit marked clinical and radiological heterogeneity, and distinguishing MS from non-MS etiologies remains challenging despite multimodal evaluation.
Disclosures: Nil

P-57

Diffusion MRI Characteristics of Acute Contrast-Enhancing Demyelinating Lesions Predict Chronic Black Hole Formation: A Lesion-Based Mixed-Effects Analysis

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Background: In multiple sclerosis, a proportion of acute contrast-enhancing demyelinating lesions evolve into chronic T1-hypointense lesions, commonly referred to as chronic black holes. These lesions are associated with more severe tissue destruction and axonal loss.
Objective: This study aimed to investigate whether diffusion-weighted imaging and apparent diffusion coefficient characteristics during the acute phase could predict chronic black hole formation at 6 months.
Methods: In this retrospective study, 142 acute contrast-enhancing demyelinating lesions from 55 patients with multiple sclerosis were evaluated. Lesions were classified according to their DWI signal characteristics as hyperintense or isointense and according to their ADC characteristics as hyperintense, isointense, or hypointense. For statistical analysis, the ADC variable was dichotomized. The primary outcome was chronic black hole formation on follow-up MRI at 6 months. Because multiple lesions were assessed within the same patient, a lesion-based mixed-effects logistic regression model was used to account for within-patient

clustering. Age, Expanded Disability Status Scale score, and disease duration were included in the multivariable model.

Results: The mean age of the patients was 34.0 ± 8.2 years, the mean disease duration was 7.2 ± 4.9 years, and the mean EDSS score was 2.05 ± 1.65. Overall, 72.7% of the patients were female and 87.3% had relapsing-remitting multiple sclerosis. In univariable analysis, DWI hyperintensity was significantly associated with chronic black hole formation (OR approximately 3.8, $p<0.001$). ADC hyperintensity was also associated with an increased risk (OR approximately 3.1, $p=0.001$). In the combined analysis, DWI-positive/ADC-positive lesions had the highest risk of chronic black hole formation (OR=15.01, 95% CI: 3.72–60.61, $p<0.001$). DWI-positive/ADC-negative lesions were also significantly associated with chronic black hole formation (OR=6.63, 95% CI: 1.36–32.37, $p=0.019$). The DWI-negative/ADC-positive pattern was not significantly associated with the outcome (OR=3.82, 95% CI: 0.58–25.33, $p=0.165$). Age and EDSS were not significant, whereas disease duration showed a borderline association.

Conclusion: Combined assessment of DWI and ADC characteristics in acute contrast-enhancing demyelinating lesions may help identify lesions at high risk of evolving into chronic black holes. In particular, the DWI-positive/ADC-positive pattern emerged as a strong imaging predictor of chronic black hole formation, independent of clinical variables. These findings should be validated in larger prospective cohort.

Disclosures: No

P-58

Neuromyelitis Optica Spectrum Disorder with Hydrocephalus: A Case Report

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Background: Neuromyelitis optica spectrum disorder (NMOSD) is an inflammatory demyelinating autoimmune disease that is characterized by relapsing attacks preferentially involving the optic nerves and spinal cord. A majority of patients with NMOSD have brain abnormalities, some of which are “NMO-typical” with localization in aquaporin 4 (AQP4)–rich circumventricular and periaqueductal regions.

Objective: Hydrocephalus (both communicating and non-communicating) is a rare manifestation of NMOSD.

Methods: 37-year-old woman presented with weakness and paresthesia on the both legs for one week. Neurological examination revealed bilateral leg weakness (MRC grade 4) and sensory level (T4).

Results: Spinal MRI revealed a longitudinally extensive T2 hyperintensity from C7 level to T11 level. Brain MRI demonstrated hydrocephalus without evidence of obstruction. Cerebrospinal fluid showed elevated protein (67.9 mg/dL), normal WBC count, normal glucose, and negative infectious studies. Aquaporin-4 antibody testing via cell-based assay was positive in serum, confirming NMOSD. She had intermittent headache, vomiting, and abnormal gait for the past three years. However, she did not go to the hospital for a check. Hydrocephalus was regarded as a past injury. The patient received high-dose corticosteroids and improved.

Conclusion: AQP4-ab-positive NMOSD may predispose to hydrocephalus. Hydrocephalus was identified in 1.1% of AQP4-IgG positive patients. Inflammation secondary to AQP4 antibodies in the peri-ventricular region may cause destruction of astrocytes, scarring, and

resorption could lead to hydrocephalus by a nonobstructive mechanism.
Disclosures: none

P-59
Longitudinally Extensive Transverse Myelitis Following Thoracolumbar Spine Surgery Mimicking Spinal Cord Infarction
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Background: Acute paraplegia after thoracolumbar spine surgery usually raises concern for mechanical injury or spinal cord infarction. However, inflammatory myelopathy may present similarly and should be considered when cerebrospinal fluid and serial magnetic resonance imaging findings are atypical for ischaemia.
Objective: To describe a case of longitudinally extensive transverse myelitis occurring immediately after thoracolumbar spine surgery and initially considered to represent spinal cord infarction.
Methods: A 53-year-old man with coronary artery disease underwent posterior percutaneous screw fixation from T9 to L2 and percutaneous bone grafting of the T12 vertebral body for an unhealed compression fracture. Aspirin had been withheld perioperatively. Immediately after recovery from anaesthesia, he developed complete paraplegia, a T6 sensory level, and loss of bowel control. Initial spinal magnetic resonance imaging showed extensive cord swelling and T2-weighted hyperintensity from T7 to the conus, with leptomeningeal enhancement. Spinal cord infarction was initially considered because of the abrupt onset, vascular risk factors, and perioperative context. Cerebrospinal fluid analysis, brain magnetic resonance imaging, serological testing, and serial whole-spine magnetic resonance imaging were subsequently performed. Serum aquaporin-4 immunoglobulin G and myelin oligodendrocyte glycoprotein immunoglobulin G antibodies were tested. High-dose intravenous methylprednisolone was administered, followed by plasma exchange.
Results: Cerebrospinal fluid showed 9 white blood cells/μL, markedly elevated protein of 430.4 mg/dL, and an elevated immunoglobulin G index of 1.086. Brain magnetic resonance imaging showed no lesions suggestive of multiple sclerosis or neuromyelitis optica spectrum disorder. Follow-up whole-spine magnetic resonance imaging demonstrated cranial extension of the central cord lesion to T3, marked cord oedema, and extensive leptomeningeal and nerve-root enhancement. These findings favoured an inflammatory longitudinally extensive myelopathy over isolated spinal cord infarction. Aquaporin-4 immunoglobulin G and myelin oligodendrocyte glycoprotein immunoglobulin G were negative. Despite intravenous methylprednisolone and subsequent plasma exchange, no meaningful neurological recovery was observed during the first month.
Conclusion: Inflammatory longitudinally extensive transverse myelitis should remain in the differential diagnosis of acute paraplegia after spine surgery, even when the immediate onset initially suggests spinal cord infarction. Serial magnetic resonance imaging and cerebrospinal fluid analysis may be critical for diagnostic reassessment.
Disclosures: None.

P-60

Spatial Dissemination of MRI Lesions Is Associated with Relapse Burden and Multiple Sclerosis Phenotype

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Background: Magnetic resonance imaging (MRI) plays a central role in the diagnosis and monitoring of multiple sclerosis (MS). Beyond total lesion burden, the spatial distribution of lesions may reflect different aspects of disease severity.

Objective: We aimed to investigate the relationship between the anatomical distribution of MRI lesions and clinical and radiological disease characteristics in patients with MS.

Methods: Clinical and MRI data from 250 patients with MS were retrospectively evaluated. Patients were categorized according to cerebral MRI lesion distribution as having juxtacortical and/or periventricular involvement or lesions involving all three evaluated regions. The relationship between lesion distribution and relapse number, Expanded Disability Status Scale (EDSS) score, MS clinical phenotype, cervical spinal cord lesion number, T2 lesion burden, and T1 lesion presence was analyzed.

Results: More extensive MRI lesion distribution was significantly associated with a higher relapse burden ($p=0.001$), whereas no significant association was observed between lesion distribution and EDSS score ($p=0.125$). The frequency of three-region involvement differed across MS phenotypes, increasing from 51.6% in patients with clinically isolated syndrome/radiologically isolated syndrome (CIS/RIS) to 78.0% in relapsing-remitting MS (RRMS), 91.3% in secondary progressive MS (SPMS), and 100% in primary progressive MS (PPMS). Greater cervical spinal cord lesion burden was associated with more extensive cerebral lesion distribution ($p=0.001$). Three-region involvement was observed in 62.0% of patients without cervical lesions and in 87.8% of those with ≥3 cervical lesions. Similarly, increasing T2 lesion burden was significantly associated with more widespread lesion distribution ($p<0.001$). T1 lesion presence was also significantly associated with lesion distribution ($p<0.001$).

Conclusion: Widespread spatial distribution of cerebral MRI lesions was associated with higher relapse burden, greater cerebral and cervical lesion burden, and more advanced MS phenotypes. Although no direct association with EDSS was observed, spatial lesion dissemination may provide complementary information regarding overall disease burden in MS.

Disclosures: No

P-61

Five-year longitudinal changes in cortico-thalamic-striatal tract diffusion metrics in relapsing-remitting MS and healthy controls, and their association with disability progression

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Background: Diffusion MRI is highly sensitive to microstructural changes in the white matter of people with multiple sclerosis (MS), which are linked to the development of progressive disability. However, the long-term trajectory of diffusion tensor imaging (DTI) metrics in normal-appearing white matter (NAWM) and lesion tissue across specific tracts, and their relationship to disability, remains incompletely characterised.
Objective: To examine 5-year longitudinal changes in DTI metrics across nine cortico-thalamic-striatal tracts in people with relapsing-remitting MS (pw-RRMS) compared to healthy controls (HCs), and to determine their association with long-term disability progression.
Methods: Structural and diffusion data were acquired on a 3T MRI scanner(Siemens Prisma, HMRI) at baseline (BL) and 5-year follow-up (5YFU) in 39 clinically definite pw-RRMS (29 female; age 43.5 ± 10.7 years; disease duration (7.6±6.0) years; EDSS (1.8±1.1)) and 17 HCs. Fractional anisotropy (FA), mean diffusivity (MD), radial diffusivity (RD), and axial diffusivity (AD) were extracted from nine tracts of interest (TOIs), comprising seven corpus callosum segments (CC1–CC7) and two subcortical projection tracts (ST-PREM, T-PREM),segmented using TractSeg within an in-house MRtrix3 pipeline, in both normal-appearing white matter (NAWM) and WM-lesion. Longitudinal change was evaluated using a mixed-effects repeated-measures model (Time × Group). Five-year delta DTI metrics were correlated with 5YFU clinical scores (EDSS, fatigue scores) using Pearson's correlation with Benjamini-Hochberg FDR correction. Cognitive performance was assessed using the Audio Recorded Cognitive Screen (ARCS) and Symbol Digit Modalities Test (SDMT).
Results: Cognitive performance remained stable (ARCS, SDMT over 5 years; all $p > 0.05$). At BL, pw-RRMS showed reduced FA across eight of nine TOIs (Cohen's d up to −1.04; FDR $p < 0.05$) and elevated MD and RD versus HCs. Mixed-effects modelling revealed significant Time × Group interaction in 19 of 36 NAWM metric-tract combinations (FDR $p<0.05$), with non-parallel trajectories most pronounced in the mid-to-posterior corpus callosum (CC3–CC7). Notably, within lesion compartments, FA increased (+44.3%CC1; +13.2%CC2) while MD and RD decreased (MD: −15.7% and −4.7%; RD: −24.8% and −8.0%, respectively; all FDR $p < 0.01$), while AD remained unchanged, a pattern consistent with lesion maturation. Greater 5-year decline in posterior callosal AD-NAWM (CC7) was the strongest predictor of higher EDSS at 5YFU ($r = −0.47$; FDR $p = 0.025$, corrected across the 9 tracts within this metric).
Conclusion: Cortico-thalamic-striatal NAWM microstructure deteriorates progressively in pw-RRMS over five years, differing significantly from healthy ageing. Lesion DTI changes, FA increase with MD and RD decrease, suggest lesion maturation within callosal lesions, while posterior callosal AD-NAWM decline was associated with long-term disability. These findings support tract-specific DTI as a sensitive biomarker of both degeneration and repair in MS.
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P-62

Neuroimaging Features and Clinical Response to Plasma Exchange in Demyelinating Diseases

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Background: Plasma exchange (PLEX) is an important treatment option for severe acute neuroinflammatory attacks, particularly in patients with an inadequate response to corticosteroid therapy. Identifying clinical and neuroimaging factors associated with treatment response may help optimise therapeutic decision-making.
Objective: To evaluate the clinical and neuroimaging characteristics of patients treated with PLEX for acute neuroinflammatory attacks and to investigate the associations of optic neuritis, transverse myelitis, and parenchymal involvement patterns with treatment response, as well as the impact of treatment timing on early and three-month clinical outcomes.
Methods: Medical records of patients who were hospitalised and treated with plasma exchange (PLEX) for acute neuroinflammatory attacks between 2020 and 2026 were retrospectively reviewed. Attack types were classified as optic neuritis, transverse myelitis, or parenchymal involvement. Neuroimaging characteristics, including contrast-enhancement patterns in parenchymal lesions and the extent of spinal cord involvement, were evaluated. Clinical response was assessed using Expanded Disability Status Scale (EDSS) scores before the attack, in the early post-PLEX period, and at three months. In patients with optic neuritis, visual acuity and visual evoked potential (VEP) P100 latency were evaluated. The interval between symptom onset and PLEX initiation was recorded, and its association with early and three-month clinical outcomes was analysed.
Results: Thirty-nine patients were included. Complete recovery to the pre-attack Expanded Disability Status Scale (EDSS) score was achieved in 25.6% of patients, while 64.1% showed partial improvement. EDSS scores improved significantly both in the early post-PLEX period and at three months. In optic neuritis attacks, marked improvements in visual acuity and visual evoked potential (VEP) P100 latencies were observed. Among patients with parenchymal attacks, those with ring- or open-ring-enhancing lesions showed significantly greater early and three-month EDSS improvement than those with homogeneous/nodular enhancement. However, PLEX was also initiated earlier in this group. The interval from symptom onset to PLEX initiation showed a strong negative correlation with both early and three-month EDSS improvement. In patients with transverse myelitis, clinical response did not differ significantly between short-segment myelitis and longitudinally extensive transverse myelitis (LETM).
Conclusion: PLEX is associated with significant improvements in EDSS scores, visual acuity, and VEP parameters in acute demyelinating attacks. Ring/open-ring enhancement of parenchymal lesions and earlier PLEX initiation were strongly associated with better clinical outcomes. Although neuroimaging findings are valuable for aetiological classification, the timing of PLEX initiation appears to be the most criti *Editors Note – information provided by author incomplete.*
Disclosures: The authors declare no conflicts of interest.

P-63

Longitudinal Brain Volume Changes in Radiologically Isolated Syndrome: Evidence of Early Structural Brain Loss

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Background: Radiologically isolated syndrome (RIS) is characterized by magnetic resonance imaging (MRI) findings suggestive of multiple sclerosis (MS) in individuals without a history

of clinical demyelinating events. Increasing evidence indicates that structural brain abnormalities may already be present during this clinically silent phase.
Objective: However, most studies evaluating brain volume in RIS have been cross-sectional, limiting our understanding of the longitudinal evolution of structural brain changes. This study aimed to longitudinally evaluate changes in global and regional brain volumes in individuals with RIS using serial MRI acquired at least six months apart.
Methods: Individuals with RIS who had two 3-Tesla (3T) brain MRI examinations performed at least six months apart were included. Volumetric changes between the two MRI time points were quantified, and longitudinal changes in global, regional, and lobar brain volumes were assessed. Associations between volumetric changes and age were also evaluated.
Results: A total of 28 individuals with RIS were included. Significant longitudinal volume reductions were observed in total brain volume ($p = 0.003$), total white matter volume ($p = 0.040$), total cerebral volume ($p = 0.001$), total cerebral white matter volume ($p = 0.029$), right cerebral volume ($p = 0.001$), right cerebral white matter volume ($p = 0.021$), left cerebral volume ($p = 0.004$), left cerebral white matter volume ($p = 0.050$), brainstem volume ($p = 0.029$), total thalamic volume ($p = 0.001$), right thalamic volume ($p = 0.004$), left thalamic volume ($p = 0.002$), and right frontal cortical volume ($p = 0.038$). Conversely, total cerebrospinal fluid volume increased significantly over time ($p = 0.023$). Age was positively correlated with the percentage change in total cerebral white matter volume ($r = 0.376$; $p = 0.049$) and left cerebral white matter volume ($r = 0.385$; $p = 0.043$), whereas a negative correlation was observed between age and the percentage change in right frontal cortical volume (r *Editors Note – information provided by author incomplete.*
Conclusion: Longitudinal MRI assessment demonstrates measurable volume loss involving both global and regionally specific brain structures in individuals with RIS. The observed reductions in cerebral, white matter, thalamic, brainstem, and frontal cortical volumes suggest that structural brain changes may occur during the clinically silent phase preceding the onset of clinically manifest MS. Notably, the patt *Editors Note – information provided by author incomplete.*
Disclosures: NA

POSTER SESSION - 5
Patient Reported Outcomes and Programs that Support Quality of Life

P-64
Withdrawn

P-65
Implementing the MSFC and MSIS-29 in Routine MS Care for Early Detection of Disease Progression: A Real-World Study
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Background: PIRA (Progression Independent of Relapse Activity) contributes significantly to disability in MS, however is under-recognised in clinical practice. This project will evaluate the implementation and translation of the highly validated and reliable outcome measures MSFC and MSIS-29 into real-world practice to improve early detection of PIRA and inform future models of MS care.

Objective: This project aims to address a gap in routine MS care, offering a practical pathway to detect PIRA and improve outcomes for people with MS. It will evaluate the operational feasibility, patient and neurologist acceptability/satisfaction and clinical utility of implementing individual components of the MSFC, together with the MSIS-29, within a well-established outpatient MS neurology clinic.
Methods: This is a prospective, observational implementation study situated at the Perron Institute MS Clinic in Western Australia, a leading MS outpatient service reviewing more than 30 adult patients weekly. Current routine monitoring includes blood tests, MRI and EDSS. As part of the study, The MSFC components (9HPT, SDMT, T25FW) and MSIS-29 will be administered by a physiotherapist prior to patients' neurology clinic appointments, utilising standard wait times as clinically productive windows. Data will be documented and provided to the treating neurologist in real time to support clinical decision-making, with serial results retained in the patient's medical record. Outcomes will also be integrated into the Perron Institute MSBase Registry, creating a secure, longitudinal resource for future clinical and translational research. Results will be defined by specific and measurable success thresholds. Feasibility will be evaluated with recruitment/completion rates and time to complete assessments. Participant and neurologist acceptability/satisfaction and clinical utility will be evaluated through surveys and structured interviews. Factors explored include ease of use, perceived relevance and support for ongoing implementation.
Results: This implementation project is still in development and proposed to commence in early 2027, with results evaluated over a one-year period. It is hypothesised that the implementation of the MSFC components and MSIS-29 within a within a well-established outpatient MS neurology clinic, without disrupting clinic workflows, is highly feasible. Patients and neurologists will also find these assessments highly acceptable, clinically relevant in tracking disease trajectories and contributes to improved quality of care. Assessments will also provide clinically useful information beyond standard assessments, as reported by neurologists, by providing a more comprehensive assessment of functional changes, earlier identification of disability progression and optimising clinical decisions in the management of MS.
Conclusion: This project aims to improve MS monitoring through the translation and implementation of validated multidimensional outcome measures in routine care. By demonstrating the feasibility, acceptability and clinical utility of these assessments within existing clinic workflows, the study will establish a scalable future model of care, aimed at supporting earlier detection of PIRA in patients with MS.
Disclosures: Nil

P-66
Seropositive Neuromyelitis Optica Spectrum Disorder with Excellent Recovery and Nearly 18 Years of Relapse-free Survival after Only One Year of Interferon β-1a: A Case Report
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Background: Neuromyelitis optica spectrum disorder (NMOSD) is typically characterized by severe attacks with poor recovery and frequent relapses. However, a small subset of patients may follow an exceptionally benign clinical course with prolonged remission and favorable functional outcomes. Better characterization of this phenotype may facilitate prognostication and individualized treatment strategies.

Objective: To describe an anti-aquaporin-4 (AQP4)-positive NMOSD patient with favorable functional recovery and nearly 18 years of relapse-free survival after only one year of disease-modifying therapy.
Methods: We report a case of anti-AQP4-positive NMOSD initially diagnosed as multiple sclerosis, characterized by prolonged relapse-free survival and favorable functional recovery.
Results: A 51-year-old man with remote myasthenia gravis developed recurrent area postrema syndrome in 2006, in the next year followed by brainstem encephalitis, optic neuritis, and longitudinally extensive transverse myelitis (LETM). Brain MRI demonstrated periependymal lesions involving the area postrema and fourth ventricle, while spine MRI revealed LETM from medulla to thoracic cord with predominant central gray matter involvement. He was initially diagnosed with multiple sclerosis and treated with pulse therapy followed by interferon β-1a for one year, before being lost to follow-up. He achieved near-complete neurological recovery (focal pain and hyperhidrosis only) and remained relapse-free for nearly 18 years without further immunotherapy. In 2026, he developed thoracic myelitis presenting as lower limbs paresthesia. Serology testing showed anti-AQP4 positivity and anti-MOG negativity, establishing the diagnosis of NMOSD. His current Expanded Disability Status Scale (EDSS) score was 2.0.
Conclusion: This case demonstrates that seropositive NMOSD may rarely follow an exceptionally benign clinical course with prolonged relapse-free survival and favorable functional recovery after minimal treatment. Long remission should not preclude consideration of NMOSD or appropriate AQP4 antibody testing.
Disclosures: The authors have nothing to disclose. The authors declare no conflicts of interest associated with this manuscript.

P-67
Restless Legs Syndrome in Patients with Neuromyelitis Optica Spectrum Disorder
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Background: Sleep disorders are increasingly recognized in neuromyelitis optica spectrum disorder (NMOSD), yet restless legs syndrome (RLS) has been insufficiently investigated. We aimed to determine the frequency and severity of RLS in patients with NMOSD and to examine its relationship with sleep quality, daytime sleepiness, and depressive symptoms.
Objective: Restless legs syndrome (RLS) is a common neurological sleep disorder that may substantially impair quality of life but has been inadequately investigated in neuromyelitis optica spectrum disorder (NMOSD). This study aimed to determine the prevalence and severity of RLS in patients with AQP4-IgG-positive NMOSD compared with healthy controls and to explore its association with sleep quality, daytime sleepiness, and depressive symptoms.
Methods: Thirty-six patients with AQP4-IgG-positive NMOSD and age- and sex-matched healthy controls were enrolled in this case–control study. RLS was assessed using the Restless Legs Syndrome Diagnostic Questionnaire and the International Restless Legs Syndrome Rating Scale (IRLS). Sleep quality, excessive daytime sleepiness, and depressive symptoms were evaluated using the Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), and Beck Depression Inventory (BDI), respectively. Correlation analyses were performed between clinical and sleep-related measures.
Results: The prevalence of RLS was significantly higher in patients with NMOSD than in healthy controls. Patients with NMOSD also had significantly higher scores on both the RLS

Diagnostic Questionnaire and the IRLS, indicating a greater severity of RLS symptoms. BDI scores showed a significant negative correlation with mean sleep latency on the Multiple Sleep Latency Test (MSLT) ($p < 0.010$). Furthermore, ESS, PSQI, IRLS, and BDI scores were positively correlated with each other (all $p < 0.001$), suggesting that increasing RLS severity was associated with poorer sleep quality, greater daytime sleepiness, and more severe depressive symptoms.

Conclusion: Restless legs syndrome is more common and more severe in patients with NMOSD than in healthy individuals. RLS is associated with impaired sleep quality, increased daytime sleepiness, and depressive symptoms, highlighting its potential contribution to the overall disease burden. Routine screening for RLS may improve the comprehensive clinical assessment and management of patients with NMOSD.

Disclosures: No

P-68

Restless Legs Syndrome in Patients with Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease (MOGAD)

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Background: Sleep disturbances are increasingly recognized in myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD), but data on restless legs syndrome (RLS) remain limited. This study aimed to investigate the prevalence and severity of RLS in patients with MOGAD and to examine its relationship with sleep quality, daytime sleepiness, and depressive symptoms.

Objective: To evaluate the prevalence and severity of restless legs syndrome (RLS) in patients with myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) compared with healthy controls and to investigate its relationship with subjective and objective sleep measures, daytime sleepiness, and depressive symptoms.

Methods: Forty-two patients with MOGAD and age- and sex-matched healthy controls were enrolled in this case–control study. RLS was assessed using the Restless Legs Syndrome Diagnostic Questionnaire and the International Restless Legs Syndrome Rating Scale (IRLS). Sleep quality, excessive daytime sleepiness, and depressive symptoms were evaluated using the Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), and Beck Depression Inventory (BDI). Correlation analyses were performed between clinical and sleep-related measures.

Results: The prevalence of RLS was significantly higher in patients with MOGAD than in healthy controls. Patients with MOGAD also had significantly higher scores on both the RLS Diagnostic Questionnaire and the IRLS, indicating greater severity of RLS symptoms. BDI scores showed a significant negative correlation with mean sleep latency on the Multiple Sleep Latency Test (MSLT) ($p < 0.001$). Furthermore, ESS, PSQI, IRLS, and BDI scores were positively correlated with each other (all $p < 0.001$), suggesting that increasing RLS severity was associated with poorer sleep quality, greater daytime sleepiness, and more severe depressive symptoms.

Conclusion: Restless legs syndrome is more frequent and more severe in patients with MOGAD than in healthy controls. RLS is associated with impaired sleep quality, increased daytime sleepiness, and depressive symptoms, highlighting the importance of routine screening for sleep disorders as part of the comprehensive clinical evaluation of patients with MOGAD.

Disclosures: no

P-69

Early Tocilizumab Intervention for Refractory Transverse Myelitis in Myelin Oligodendrocyte Glycoprotein Antibody-associated Disease

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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) is an inflammatory demyelinating disease of central nervous system, sometimes related to infection. However, MOGAD accompanied by syphilis has rarely been reported. Furthermore, the efficacy of interleukin-6 receptor blockade during the acute phase of MOGAD remains unclear.

Objective: The aim of this case report is to describe the clinical features of a case with MOGAD accompanied by syphilis, and its response to treatments including tocilizumab.

Methods: A 24-year-old woman presented with complete flaccid paraplegia which had progressed over three days preceding admission. Four weeks prior to presentation, she had received penicillin treatment for early syphillis. At presentation, she was hyperthermic with an altered level of consciousness. Neurological examination demonstrated nuchal rigidity, severe flaccid paraplegia, severe impairment below the T6 level and urinary retention. Cerebrospinal fluid analysis revealed a pleocytosis (403 cells/μL) and elevated protein (259 mg/dL). A multiplex PCR panel for neurotropic viral and bacterial pathogens was negative. Whole-spine MRI demonstrated T2 hyperintensity along the entire spinal cord, predominantly restricted to the central gray matter, making a “H sign”. Head MRI scan showed hyperintensity on left crus cerebri.

Results: On Day 1 of admission, intravenous methylprednisolone (IVMP) was initiated for suspected acute demyelinating disease such as neuromyelitis optica spectrum disease and MOGAD, and ceftriaxone was added to cover potential syphilitic myelitis. Following the initial course of IVMP, her level of consciousness normalized. However, her flaccid paraplegia remained refractory. Therefore, plasma exchange (PE) was initiated on Day 2. Serum and cerebrospinal fluid tests were positive for anti-MOG antibody, confirming a diagnosis of MOGAD. Despite completing two additional courses of IVMP and five sessions of PE, no motor recovery was observed. Because acute myelitis was refractory to standard treatment of care, off-label therapy with tocilizumab (8 mg/kg) was initiated on Day 33. On Day 35, the patient exhibited her first measurable improvement in paraplegia.

Conclusion: We report a case of MOGAD presenting with severe, refractory LETM associated with early syphilis that responded to tocilizumab. In cases of acute MOGAD refractory to IVMP and PE, IL-6 receptor blockade can be a potential therapeutic option.

Disclosures: No conflict of interest.

P-70

Treatment Preferences Among Japanese Patients With NMOSD: Outcomes From a Discrete Choice Experiment

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Norito Kokubun[16], Chiyoko Nohara[17], Yoko Tsuboyama[18], Tadashi Nagatsuka[18], Tatsunori Murata[19], Yuta Fukuoka[19], Yuko Shimizu[3]
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Background: Neuromyelitis optica spectrum disorder (NMOSD) relapses reduce quality of life (QoL). In Japan, prednisolone (PSL) is widely used despite adverse events (AEs) and it may fail to adequately control relapses. The 2023 Japanese Clinical Practice Guidelines advise shifting to immunosuppressive therapy (IST) and biologics, although patient preferences regarding NMOSD treatment are unclear.

Objective: To assess treatment preferences among Japanese patients with NMOSD to facilitate shared decision-making.

Methods: Patients with NMOSD who tested positive for aquaporin-4 antibodies were surveyed using a web-based questionnaire across 18 Japanese institutions. The primary outcome measure involved treatment preferences, quantified using a discrete choice experiment (DCE), a stated preference technique consisting of 14 choice tasks featuring hypothetical options defined by six attributes. Secondary outcome measures included patients' experiences with PSL related AEs and associated anxiety, treatment satisfaction, and how well current therapies aligned with their preferences.

Results: Among 311 respondents (89.4% female; mean age 56.0 years), 71.1% received biologics, 55.6% used PSL (average PSL dose 5.5 mg/day), and 24.8% were on IST. In the DCE cohort, relapse prevention was the top treatment priority (32.8%), followed by PSL related AEs (fractures 21.8%, cosmetic changes 18.9%, diabetes 11.6%), administration route (9.5%), and serious infection risk (5.4%). Cosmetic changes ranked second for patients aged <50 years (23.0%) but third for those ≥50 years (17.0%), indicating greater concern among younger patients. For patients with modified Rankin Scale score 0–2, cosmetic changes were

as important as fracture risk. Patients not on biologics valued the administration route more. Common PSL-related AEs included moon face/central obesity (71.7%), increased appetite (48.6%), and insomnia (37.3%). Most patients (88.4%) were satisfied with their treatment, and 90.0% felt that it met their expectations.

Conclusion: The most critical treatment aspect for patients with NMOSD was relapse prevention, followed by factors influencing QoL. The low priority assigned to the risk of serious infections is concerning and highlights the need for greater patient awareness. Despite treatment satisfaction being high, incorporating patients' experiences and preferences could enhance shared decision making.

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P-71

Normative Data of Nine-Hole Peg Test in Healthy Indian Individuals to Aid The Calculation of Z-Score of Persons with Multiple Sclerosis

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Background: The Expanded Disability Status Scale (EDSS),widely used in multiple sclerosis (MS), underrepresents upper-limb dysfunction. Nine-Hole Peg Test (9HPT) provides an objective measure of upper-limb function. Normative values are necessary for interpreting performance and deriving Z-scores for composite functional assessment. We developed a 3D-printed 9HPT, evaluated its performance in healthy Indian adults.

Objective: To establish preliminary normative values for a 3D-printed 9HPT in healthy Indian adults and evaluate differences according to hand dominance, repeated trials, and peg-placement and peg-removal phases.

Methods: The 9PHT records the time in seconds to place nine pegs into a board and then remove them, performed separately with the dominant and non-dominant hand. An indigenously 3D-Printed board and pegs was used. The placing and removing phases sum to the total, and lower times indicate better dexterity Descriptive statistics are reported as mean ± standard deviation. Between-hand and between-phase differences on the 9PHT were tested with two-tailed paired t-tests ($\alpha = 0.05$). Associations with age, and cross-test associations, were quantified with Pearson correlation coefficients.

Results: Sixty healthy adults were enrolled with mean age of 37.0 ± 12.9 years. The study comprised of 31 women and 29 men. Fifty-nine participants were right-hand dominant, and one was left-hand dominant Mean total time on 9PHT for dominant hand was 25.1±4.6s versus 27.9±4.2s for non-dominant ($p<0.0001$). For the dominant hand, placing took 16.8±2.9s and removing 8.3±2.4s; for the non-dominant hand, placing took 19.4±3.3s and removing 8.5±1.4s. The between-hand difference was carried almost entirely by placing, with near-identical removing times, and placing was significantly slower than removing for both hands ($p<0.0001$).

Conclusion: 9-HPT is an extremely useful test in assessing hand function with dominant hand performing better than the non-dominant hand with main difference occurring while placing the pegs rather than removing. The normative data calculated in this study can be used to calculate Z-score in Indian persons with Multiple Sclerosis.
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P-72
Association of Regular Exercise With Quality of Life, Fatigue, Sleep, Mood, and Cognitive Performance in Multiple Sclerosis
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Refer to O-10 in Plenary Oral Presentation – 2

P-73
Beyond EDSS: Associations of Fatigue, Sleepiness, Depression, Cognition, and Quality of Life With Disability in Multiple Sclerosis
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Background: The Expanded Disability Status Scale (EDSS) may not fully reflect the multidimensional burden of multiple sclerosis (MS), including fatigue, depression, daytime sleepiness, sleep disturbance, cognitive dysfunction, and impaired quality of life.
Objective: To examine the relationships between EDSS and patient-reported symptom measures, cognitive performance, and health-related quality of life in patients with MS.
Methods: A total of 353 patients with MS were evaluated. Mean age was 37.2±11.0 years, 72.5% were women, 93.5% had relapsing-remitting MS, and mean EDSS score was 0.9±1.5. Depression, daytime sleepiness, sleep quality, fatigue, cognitive performance, and quality of life were assessed using the Beck Depression Inventory (BDI), Epworth Sleepiness Scale (ESS), Pittsburgh Sleep Quality Index (PSQI), Fatigue Severity Scale (FSS), Symbol Digit Modalities Test (SDMT), and Multiple Sclerosis International Quality of Life questionnaire (MusiQoL), respectively. Spearman correlation and group comparisons were performed.
Results: EDSS showed weak positive correlations with BDI ($r=0.139$; $p=0.009$), ESS ($r=0.148$; $p=0.006$), and FSS scores ($r=0.176$; $p<0.001$), and a weak negative correlation with SDMT performance ($r=-0.139$; $p=0.009$). Patients with excessive daytime sleepiness (ESS 11–24) had higher EDSS scores than those with ESS 0–10 ($p=0.010$). Patients with clinically relevant fatigue (FSS ≥4) also had higher EDSS scores than those with FSS <4 ($p=0.003$). No significant association was found between EDSS and MusiQoL ($r=-0.040$; $p=0.460$) or PSQI ($r=0.096$; $p=0.074$).
Conclusion: Fatigue, daytime sleepiness, depressive symptoms, and reduced cognitive processing speed were associated with greater disability, although correlations were weak. The absence of direct associations between EDSS, quality of life, and sleep quality underscores the need for multidimensional assessment beyond physical disability alone.
Disclosures: No conflict of interest

P-74

Depression is Elevated in Persons with Multiple Sclerosis in Singapore: Associations with Quality of Life and Treatment Adherence

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Background: Depression and anxiety are common in multiple sclerosis (MS) and may impair quality of life (QOL), employment, and treatment adherence. Evidence from Southeast Asia remains limited.

Objective: To determine the prevalence of anxiety and depression among individuals with MS in Singapore and their associations with QOL, employment, and treatment adherence.

Methods: In this cross-sectional study, 56 adults (mean age 40.6 years, 72.7% female) with MS (73.2% relapsing-remitting, mean disease duration 101.3 months) were recruited from the National University Hospital and MS Society Singapore between July 2025 and February 2026. Ethnicities were Chinese (53.6%), Malay (23.2%), Indian (7.1%), and Others (16.1%). The Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), MS Quality of Life-54 (MSQOL-54), and Morisky Medication Adherence Scale (MMAS-4) were administered. Descriptive statistics, group comparisons, and regression analyses were performed.

Results: Clinically significant depressive (PHQ-9 ≥10) and anxiety symptoms (GAD-7 ≥10) were present in 17.9% and 12.5% of participants. Depression prevalence was higher than in a Singapore primary care population (17.9% vs. 8.7%, $p < 0.01$), whereas anxiety did not differ (12.5% vs. 7.3%, $p = .126$). Depressive symptoms were associated with poorer mental ($\beta = -0.60$, $p < 0.01$) and physical ($\beta = -0.56$, $p < 0.01$) health QOL; anxiety was not associated with either after adjusting for depression. Higher depressive symptoms were also associated with lower treatment adherence ($\beta = -0.43$, $p < 0.01$). Unemployed patients reported poorer physical health QOL than employed patients ($d=0.84$, $p<0.01$).

Conclusion: Depression, but not anxiety, was elevated in individuals with MS in Singapore relative to the general population and was associated with poorer quality of life and reduced treatment adherence. These findings support depression screening in MS care, which may identify patients at risk of poor treatment adherence.

Disclosures: NIL

P-75

Longitudinal Relationships Among Cognitive Function, Gait Performance, and Disability in Multiple Sclerosis: A Taiwanese Cohort Study

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Background: Cognitive impairment, gait dysfunction, and physical disability represent potentially discordant dimensions of multiple sclerosis (MS). Their long-term interrelationships remain insufficiently characterized in Asian populations.
Objective: We investigated longitudinal changes and cross-domain associations among cognition, gait performance, and disability in a Taiwanese MS cohort.
Methods: This cohort included 115 patients with MS diagnosed according to the 2017 revised McDonald criteria at Taipei Veterans General Hospital. Cognition was assessed using the Montreal Cognitive Assessment (MoCA) and Symbol Digit Modalities Test (SDMT), while gait and disability were evaluated using the timed 7.5-m walk and Expanded Disability Status Scale (EDSS). Paired initial and last assessments were compared using Wilcoxon signed-rank tests, and annualized changes were examined using Spearman correlation. Multivariate logistic regression was used to evaluate cross-domain associations with adjustment for sex, disease duration at first EDSS assessment, and age at disease onset.
Results: The cohort was predominantly female (80.0%) and comprised mainly patients with relapsing-remitting MS (87.0%), with a median age at disease onset of 28.4 years. EDSS increased from 1.5 to 2.0 over a median 4.75 years (p=0.003) and timed 7.5-m walking time increased from 7.00 to 7.58 seconds over 2.26 years (p=0.002). Annualized EDSS and SDMT changes were weakly correlated (Spearman rho=0.254, p=0.029). MoCA worsening was associated with SDMT deterioration (30.0% vs 2.1%, p=0.014). Among 59 cases with complete data, MoCA worsening occurred in 11 of 43 patients without EDSS deterioration but in none of 16 patients with EDSS deterioration. This inverse association remained significant after adjustment (adjusted odds ratio 0.084; p=0.019).
Conclusion: Disability and gait worsened despite stable overall cognitive performance. Concordance between MoCA and SDMT changes contrasted with an inverse association between MoCA worsening and EDSS deterioration, suggesting discordant cognitive and physical progression. This finding should not be interpreted as a protective effect and requires validation in larger cohorts with harmonized follow-up.
Disclosures: NIL

POSTER SESSION - 6
Disease Modifying Therapies

P-76
Seronegative Longitudinally Extensive Transverse Myelitis in a Filipino Adult: Diagnostic and Therapeutic Challenges
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Background: Longitudinally extensive transverse myelitis (LETM) is most commonly associated with neuromyelitis optica spectrum disorder (NMOSD) and myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD). However, double-seronegative LETM remains diagnostically and therapeutically challenging because evidence guiding long-term immunosuppressive treatment is limited.
Objective: To describe the diagnostic evaluation, therapeutic decision-making, and short-term clinical outcome of a Filipino patient with severe double-seronegative LETM who demonstrated incomplete neurological recovery despite first-line immunotherapy and subsequently required maintenance immunosuppression.

Methods: A 45-year-old Filipino woman presented with a three-day history of severe upper back pain followed by rapidly progressive quadriparesis, sensory loss, and urinary retention. Neurological examination demonstrated asymmetric quadriparesis, a T4 sensory level, bilateral Babinski signs, and autonomic dysfunction. MRI of the cervicothoracic spine revealed a longitudinally extensive, non-expansile intramedullary T2-hyperintense lesion extending from C3 to T2 without enhancement. Brain MRI showed no demyelinating lesions. Cerebrospinal fluid analysis demonstrated mild lymphocytic pleocytosis with normal IgG index and absent oligoclonal bands. Extensive infectious, autoimmune, metabolic, vascular, and neoplastic investigations were unrevealing. Serum aquaporin-4 and myelin oligodendrocyte glycoprotein antibodies tested by cell-based assay were negative. The patient received high-dose intravenous methylprednisolone followed by oral prednisone. Because of persistent severe neurological deficits, maintenance immunosuppression with azathioprine was initiated after consideration of escalation therapy.
Results: The comprehensive diagnostic evaluation supported a diagnosis of double-seronegative LETM after exclusion of alternative etiologies. The patient demonstrated only partial neurological improvement following corticosteroid therapy, with persistent severe quadriparesis, dysesthesias, neurogenic bladder, and wheelchair dependence at 3.5-month follow-up. Repeat spinal MRI showed no interval improvement, although no clinical relapse occurred. Given the severity of residual disability and concern for future relapse despite negative disease-specific antibodies, azathioprine was initiated as steroid-sparing maintenance immunosuppression, with plans for repeat antibody testing and continued longitudinal surveillance.
Conclusion: Double-seronegative LETM presents significant diagnostic and therapeutic challenges. In patients with severe deficits and incomplete response to corticosteroids, individualized maintenance immunosuppressive therapy may be considered despite the absence of disease-specific antibodies. Longitudinal follow-up and repeat serologic evaluation remain essential to guide ongoing management.
Disclosures: None.

P-77

Impact of Biological Therapies on Serum Complement Levels in Neuromyelitis Optica Spectrum Disorder

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Background: Complement activation contributes to the pathogenesis of aquaporin-4 immunoglobulin G (AQP4-IgG)–positive neuromyelitis optica spectrum disorder (NMOSD). Serum complements markers such as Ba, soluble C5b-9 (sC5b-9), and factor H (FH) may reflect disease activity and relapse risk. However, the effects of biological therapies on these markers remain unclear.
Objective: To evaluate the association between biological therapies and serum complement levels in patients with AQP4-IgG–positive NMOSD.
Methods: Serum Ba, sC5b-9 and FH were measured in 199 AQP4-IgG–positive NMOSD patients enrolled in NMOSD Registry (UMIN000051988). Complement levels were classified as normal or abnormal using the reference intervals established by the Japanese Association for Complement Research. Treatment categories were complementing component 5 inhibitors (C5-I), interleukin-6 receptor inhibitors (IL-6R-I), B cell-targeted therapies, and no biological therapies. Multivariable logistic regression was performed to assess associations between treatment category and complement marker levels, adjusting for age, sex, Expanded Disability Status Scale, prednisolone dose, and immunosuppressant use.
Results: sC5b-9, Ba, and FH levels were classified as abnormal in 97, 83, and 49 AQP4-IgG–positive NMOSD patients, respectively. IL-6R-I and B cell-targeted therapies were more frequent in the normal sC5b-9 and Ba level groups, whereas C5-I was more frequent in the abnormal level groups. In multivariable analyses, IL-6R-I and B cell-targeted therapies were associated with lower odds of abnormal sC5b-9 (IL-6R-I: odds ratio [OR] 0.34, 95% confidence interval [CI] 0.17–0.65; B cell-targeted therapies: OR 0.31, 95% CI 0.12–0.79) and abnormal Ba (IL-6R-I: OR 0.28, 95% CI 0.14–0.56; B cell-targeted therapies: OR 0.32, 95% CI 0.12–0.87). IL-6R-I were associated with higher odds of abnormal FH (OR 6.96, 95% CI 3.13–15.5).
Conclusion: Serum complement levels differed across biological therapy categories in AQP4-IgG–positive NMOSD. IL-6R-I and B cell-targeted therapies may suppress alternative and terminal complement activation, whereas the clinical significance of these differences requires longitudinal evaluation.
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P-78

Is Siponimod Unique In The Treatment Of Secondary Progressive Multiple Sclerosis

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Background: Optimal treatment of secondary progressive multiple sclerosis (SPMS) remains controversial. Siponimod is the only therapy with randomised-controlled trials evidence of efficacy in SPMS (EXPAND), and, in many jurisdictions, remains the only drug approved for this indication, e.g. UK NICE guidelines. At the same time, conventional MS phenotypes and their use to choose therapy are being challenged.

Objective: Three objectives were addressed: (1) To evaluate the effect of siponimod in SPMS in a real-world cohort through causal inference, including in active and inactive SPMS. (2) To determine if siponimod is superior to high-efficacy therapies (HET) in SPMS. (3) To establish whether patients established on HET but meeting SPMS criteria should be switched to siponimod or continue current treatment.

Methods: 3 target trial emulations were conducted, using the international MSBase registry: (1) Patients with SPMS on either siponimod or no treatment, using inclusion criteria to emulate the EXPAND trial, were sequentially emulated at every eligible baseline. Patients were inverse-probability-weighted for baseline treatment allocation, probability of loss-to-follow-up, and non-adherence. (2) Patients commencing either siponimod or HET (B-cell

depletion/natalizumab/alemtuzumab) during SPMS were propensity-score (1:1) matched at time of therapy commencement. (3) Patients with SPMS established on HET (≥6 months) were sequentially randomised and cloned, censored and weighted based on two treatment strategies at all eligible baselines: HET continuation or switching to siponimod (within a pre-defined grace period: ≤2x current treatment dosing interval). Weights/propensity scores were calculated using sex, age, EDSS, geographic region, calendar year, MS duration, and previous MS activity and treatment. Outcomes were 6-month confirmed disability worsening (CDW), improvement (CDI), and relapses, calculated using (1&3) pooled logistic regression with bootstrapping; (2) pairwise censored Andersen-Gill proportional hazards models, adjusted for visit density. Planned subgroup analyses (1&2) evaluated effects in active and inactive SPMS.
Results: (1) Included patients: 901 untreated, 310 on siponimod. Median age (50, IQR 43-54), EDSS (6, 5-6.5), disease duration (17 years, 11-23) resembled EXPAND. 5-year CDW relative risk for siponimod vs no treatment mirrored EXPAND: 0.78 95%CI=0.55-1.04. Relapse risk reduction was more modest: RR=0.79 95%CI=0.51-1.30. Subgroup analyses demonstrated CDW risk reduction only in active (RR=0.73 95%CI=0.44-1.13) but not inactive (RR=1.47, 95%CI=1.00-2.36) SPMS. (2) Of 2549 patients commencing HET or siponimod in SPMS, 356 (siponimod) and 1386 (HET) were included; 514 were matched. We found no evidence for a difference in cumulative CDW (HR=1.32 95%CI=0.75-2.31) or relapse (HR=0.97 95%CI=0.65-1.43) hazard, including in active and inactive subgroup analyses. (3) Of 2565 eligible patients, 49 switched to siponimod from HET within the grace period. There was a signal for increased 3-year CDW risk (RR=1.55 95%CI=0.70-2.39) following switch to siponimod, noting limited power. CDI events were infrequent.
Conclusion: The causal effect of siponimod on preventing disability is driven entirely by inclusion of active SPMS. Siponimod does not offer superior efficacy to HET in SPMS. Switching patients established on HET to siponimod may be harmful. This provides justification for unifying MS treatment paradigms, and evidence against categorising MS therapy labels by increasingly outdated phenotypic classifications.
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P-79

Urgent Ravulizumab Initiation During Corticosteroid Pulse Therapy With Concurrent Meningococcal Vaccination and Antibiotic Prophylaxis in Rituximab-Refractory AQP4-Positive NMOSD

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Background: Ravulizumab requires meningococcal vaccination at least two weeks before the first dose, with antibacterial prophylaxis permitted when treatment cannot be delayed. Whether vaccination is adequate during concurrent corticosteroid pulse therapy and maintenance immunosuppression remains undefined.

Objective: To describe urgent ravulizumab initiation under concurrent double immunosuppression in rituximab-refractory aquaporin-4 (AQP4)-positive neuromyelitis optica spectrum disorder (NMOSD).

Methods: A 58-year-old woman with AQP4-antibody positive NMOSD (titre 3+) had four relapses over 15 months (annualised relapse rate 3.1): left optic neuritis (October 2024), longitudinally extensive transverse myelitis C4–T10 (November 2024), and right optic neuritis (June 2025, January 2026). Comorbid dermatomyositis with interstitial lung disease required mycophenolate mofetil 500mg twice daily after azathioprine (bicytopenia, hepatic failure) and methotrexate intolerance. Despite four weekly rituximab inductions (375 mg/m²), the fourth relapse occurred six months later with complete peripheral CD19 cell depletion (0 cells/µL), prompting complement inhibition. Intravenous methylprednisolone 1g daily ran 22–26 January 2026; quadrivalent meningococcal conjugate (MenACWY) and serogroup B (MenB) vaccines were given on pulse day 2 (23 January), with amoxicillin 500mg twice daily for three weeks. Ravulizumab (2700mg loading, then 3300mg) began 30 January, seven days after vaccination and four days after pulse completion.

Results: Our infusions were given over four months (to 5 June 2026). No meningococcal infection, serious infection or infusion reaction occurred. Transaminases raised on the vaccination day (318/360 U/L) normalised by 13 February (15/10 U/L). No further relapse occurred; Expanded Disability Status Scale score remained 3.0. Right visual acuity improved from 0.02 to 0.1 within five weeks and was sustained. Concurrent ravulizumab, mycophenolate mofetil and tapering corticosteroids were well tolerated. Second doses of both vaccines followed at eight weeks.

Conclusion: Urgent ravulizumab initiation during corticosteroid pulse therapy, bridged by immediate meningococcal vaccination and three weeks of amoxicillin, was safe and effective. Serum bactericidal antibody titres were not measured, leaving vaccine immunogenicity unconfirmed. Where relapse risk is high, vaccination timing need not delay complement inhibition if antibacterial cover is provided.

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P-80

Real-world Treatment Patterns in NMOSD: 2nd-Year Progress Report of the Japan NMOSD Registry

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Background: The 2023 Japanese clinical guidelines for multiple sclerosis and neuromyelitis optica spectrum disorder (NMOSD) emphasize reducing prolonged oral glucocorticoid (GC) use, and use of biologics.

Objective: This study aimed to clarify real-world treatment patterns using a nationwide Japanese NMOSD registry.

Methods: Data from the Japan NMOSD Registry (UMIN000051988), a multicentre observational database, were analyzed. The cross-sectional analysis included 209 patients registered between December 20, 2023, and July 31, 2025. Longitudinal analysis evaluated 95 patients with 1-year follow-up. Demographics, disability, quality of life (QOL), and treatment patterns and relapses were evaluated.

Results: Cross-sectionally, 182 patients were female. Median age at onset was 50 years [range: 13–84], age at enrolment was 58 [19–89], and 204 were anti-AQP4 antibody-positive. Median number of relapses was 2 [1–31]. Median baseline EDSS, mRS, and EQ-5D-5L utility values were 3.5 [0–9], 2 [0–5], and 0.74 [0.038–1], respectively. For relapse prevention (n=208), oral GCs (median prednisolone-equivalent: 5 mg/day [1–60]) were used in 148 cases, oral immunosuppressants (IS) in 59, and biologics (Bio) in 138 (satralizumab: 74, ravulizumab: 32, inebilizumab: 26, others: 6). Longitudinally, disability and QOL remained stable (EDSS: 3.5 [0-9] → 3.5 [0-9], mRS: 2.0 [0-5] →2.0 [0-5], EQ-5D-5L: 0.74 [0.038-1] → 0.78 [0.099-1]). However, treatment patterns shifted: oral GC use decreased from 64.2% (n=61) to 52.6% (n=50) and IS from 28.4% (n=27) to 26.3% (n=25), while Bio use increased from 60.0% (n=57) to 66.3% (n=63), driven by transitions from oral GC + Bio to Bio monotherapy. Among the 95 patients (median observation period: 345 days [283-426]), six relapses were observed. The annual relapse rate was 0.066 per person-year. The registry retention rate was 100%.

Conclusion: This analysis demonstrates widespread adoption of guideline-concordant care for NMOSD in Japan, characterized by increased biologic utilization and successful oral GC tapering.

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P-81

First analysis of the safety, effectiveness, and corticosteroid-sparing effects of ravulizumab in patients with anti-aquaporin-4 antibody-positive neuromyelitis optica spectrum disorder: real-world data from Japan

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Background: Ravulizumab (ravu) has been commercially available in Japan for >2y for the prevention of relapses in adult patients (pts) with anti-aquaporin-4 antibody-positive (AQP4-Ab+) neuromyelitis optica spectrum disorder (NMOSD). Regulatory-mandated postmarketing surveillance (PMS) of its real-world use has been conducted after approval. (Encore presentation from 10th Joint ACTRIMS-ECTRIMS Meeting 2026)

Objective: To assess real-world long-term outcomes of ravu in pts with AQP4-Ab+ NMOSD and evaluate changes in concomitant oral corticosteroid (OCS) use.

Methods: This first PMS analysis assessed the safety and effectiveness of ravu and OCS use in pts with AQP4-Ab+ NMOSD in Japan from approval (May 2023) to data cutoff (Dec 2025).

Results: The safety and effectiveness sets included 101 and 98 pts, respectively. Median (range) treatment duration was 21.3w (0.1-106.6w) in the safety set and 20.1w (0.1-106.6w) in the effectiveness set. Adverse drug reactions (ADRs) occurred in 15 (14.9%) pts, including serious ADRs in 10 (9.9%). No meningococcal infections were reported. Ravu was discontinued by 9 (8.9%) pts. In the 2y before ravu treatment (n=98, 196.0 patient-years [PY]), 46 relapses were reported (annualised relapse rate [ARR] 0.23/PY). In the full effectiveness set (n=98, 102.7PY), 3 physician-determined relapses were reported (ARR 0.03/PY). 1 was considered drug related and resolved after switching to eculizumab. Among pts who completed the 2y observational period (n=46, 86.4PY), 1 relapse was reported (ARR 0.01/PY). The proportion of pts receiving OCS ≥10 mg/day decreased from 23.5% at baseline to 4.4% at 100-104w, while the proportion receiving 0 mg/day increased from 34.7% to 66.7%.

Conclusion: Consistent with the pivotal global phase 3 CHAMPION-NMOSD trial and real-world effectiveness data, ravu was associated with robust relapse prevention in adults with AQP4-Ab+ NMOSD. No new safety signals were detected. Ravu decreased OCS use over time, suggesting a steroid-sparing effect in pts with AQP4-Ab+ NMOSD.

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Long-Term Disease-Modifying Therapies in Central Nervous System Demyelinating Diseases and the Risk of Epithelial Malignancies: A Single-Center Case Series

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Background: Long-term disease-modifying therapies (DMTs) for central nervous system (CNS) demyelinating diseases may impair host immune surveillance, increasing secondary epithelial malignancy risks. Real-world evidence on prolonged or sequential DMT exposure remains limited.

Objective: To examine clinical features, temporal relationships, and drug exposure in CNS demyelinating patients developing solid epithelial cancers after extended DMT use.

Methods: Retrospective analysis of three patients with CNS demyelinating diseases who developed histologically confirmed epithelial cancers. Neurological onset, DMT exposure, tumor histology, and risk factors were systematically reviewed.

Results: All patients experienced prolonged DMT exposure prior to cancer diagnosis. ● Case 1: A 48-year-old female with demyelinating disease treated with azathioprine (AZA) for 4.5 years (following interferon-beta and fingolimod) developed diffuse gastric adenocarcinoma with peritoneal metastases. ● Case 2: A 55-year-old female with AQP4-IgG(+) NMOSD receiving AZA for 13 years and sequential satralizumab developed stage IV metastatic breast cancer. ● Case 3: A 38-year-old male with multiple sclerosis receiving continuous fingolimod for 11 years developed stage IIIB non-small-cell lung adenocarcinoma. Classical carcinogenic risk factors (H. pylori, common driver mutations) were absent across cases.

Conclusion: Extended DMT exposure (especially >5 years) may support a permissive microenvironment for epithelial malignancies, warranting structured long-term cancer screening in these patients

Disclosures: The authors declare that they have no conflicts of interest.

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Withdrawn

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Evaluating the Experience of Secondary Progressive Multiple Sclerosis Patients Undergoing Siponimod Treatment

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Background: Siponimod, a selective sphingosine-1-phosphate receptor modulator, has demonstrated efficacy in delaying disability progression in secondary progressive multiple sclerosis (SPMS). However, evidence from real-world clinical practice remains limited. We aimed to evaluate the effectiveness and safety of siponimod in SPMS patients treated at our tertiary referral center.

Objective: To investigate the clinical outcomes and safety profile of siponimod in patients with SPMS by assessing disability progression, MRI activity, and treatment-related adverse events in a real-world setting.

Methods: This retrospective single-center observational study included patients diagnosed with SPMS who received siponimod treatment at National Taiwan University Hospital.

Demographic characteristics, disease duration, duration of the progressive phase, treatment duration, Expanded Disability Status Scale (EDSS) scores, magnetic resonance imaging (MRI) findings, laboratory data, and treatment-related adverse events were obtained from electronic medical records. Disability progression was evaluated using serial EDSS assessments. To better characterize treatment response, the annual EDSS progression slope before and after siponimod initiation was calculated for each patient. Three-month confirmed disability progression (3-month CDP), clinical relapses, and new gadolinium-enhancing MRI lesions during follow-up were also recorded. Laboratory monitoring focused on lymphopenia and hepatic function abnormalities. Descriptive analyses were performed to summarize clinical outcomes and safety.

Results: Five patients with SPMS received siponimod treatment. Most received 2 mg daily, while one required dose reduction because of lymphopenia. Two patients with shorter treatment duration were excluded from the EDSS slope analysis but remained clinically stable during follow-up. Among the remaining three patients, the annual EDSS progression slope decreased by 82%–100% after treatment initiation. Although two patients developed 3-month confirmed disability progression, disability accumulated more slowly than before treatment. Therapeutic benefit was observed even in patients with advanced disability (baseline EDSS 6.0–7.0), while patients with lower baseline EDSS tended to demonstrate greater reductions in progression rate. No new contrast-enhancing MRI lesions were observed. Grade 3 lymphopenia occurred in three patients, and one patient experienced mild liver enzyme elevation. No serious adverse events or treatment discontinuation occurred.

Conclusion: Our real-world experience suggests that siponimod may attenuate disability progression in patients with SPMS, including those with advanced disability. Earlier treatment initiation may provide greater clinical benefit. The adverse effects were manageable with regular monitoring and dose adjustment. Larger studies with longer follow-up are warranted to validate these findings.

Disclosures: The authors declare no conflicts of interest related to this study.

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Dynamics of Complement Activity during Acute Immunotherapies and Anti-C5 Therapy for Neuroimmunological Diseases

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Background: For acute exacerbation of neuroimmunological diseases, intravenous methylprednisolone (IVMP), intravenous immunoglobulin (IVIG), and plasma exchange (PLEX) have been established as standard therapies. Recently, anti-C5 therapy has been adopted for relapse prevention in (AQP4+NMOSD and stabilization of refractory AChR+gMG.

Objective: To clarify dynamics of complement activity during acute immunotherapies and anti-C5 therapy for neuroimmunological diseases.
Methods: We measured serum CH50 levels before and after treatment in patients with neuroimmunological diseases receiving IVMP, IVIG, PLEX, or anti-C5 therapy. The ratio of post-treatment to pre-treatment CH50 levels was calculated for each therapeutic group.
Results: A total of 78 patients (60% female; median age, 60 years [range, 20–79]) were enrolled, consisted of 94 sessions of immunotherapy. The primary diagnoses included AQP4+NMOSD (n=20), AChR+gMG (n=12), and other neuroimmunological diseases (n=46). The 94 treatment sessions consisted of IVMP (n=25), IVIG (n=28), PLEX (n=21), and anti-C5 (n=20). The pre-treatment CH50 values (median [interquartile range]) for each group were as follows: IVMP, 53.2 [48.0–63.1]; IVIG, 56.6 [51.7–58.6]; PLEX, 55.9 [48.8–61.0]; and anti-C5, 51.4 [43.2–55.5]. The post-to-pre-treatment CH50 ratios (median [interquartile range]) for each group were as follows: IVMP, 94.4% [83.2–97.6]; IVIG, 96.3% [88.2–106.8]; PLEX, 84.8% [75.4–91.7]; and anti-C5, 21.7% [19.3–24.6]. The CH50 ratios in the anti-C5 were significantly lower than those in the other groups (vs. IVMP, $P<0.0001$; vs. IVIG, $P<0.0001$; and vs. PLEX, $P<0.001$). Additionally, the ratios in the PLEX were significantly lower than those in the IVIG ($P<0.05$).
Conclusion: Anti-C5 therapy suppressed CH50 values more potently than conventional acute immunotherapies, suggesting its therapeutic potential in acute neuroimmunological diseases predominantly driven by complement-mediated cytotoxicity.
Disclosures: H. Kuroda received speaker honoraria from Alexion, Chugai/Roche, Mitsubishi-Tanabe, and Novartis.

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Age and Risk of Relapse-Associated Worsening in Multiple Sclerosis
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Refer to O-7 in Plenary Oral Presentation – 2

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A real-world study of the effectiveness and safety of ravulizumab in AQP4-Ab+ NMOSD patients with suboptimal response to satralizumab in Japan

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Background: Although prognosis of the patients with neuromyelitis optica spectrum disorder (NMOSD) has improved with biologics, some patients are resistant and evidence for biologics use is limited. This presentation is an encore presentation of the content presented at 10th Joint ACTRIMS-ECTRIMS Meeting 2026.

Objective: The study evaluates the effectiveness and safety of ravulizumab and its effects on inflammatory biomarkers in NMOSD patients switched from satralizumab.

Methods: This multicentre collaborative study enrolled adult patients with aquaporin-4 antibody-positive (AQP4-Ab+) NMOSD who were on satralizumab for ≥ 3 months with insufficient clinical improvement and willing to switch to ravulizumab. The primary endpoint is the proportion of relapse-free patients within 12 months of starting ravulizumab. Key secondary endpoints include steroid dose reduction, Expanded Disability Status Scale (EDSS) changes, changes in brain and spinal cord MRI and changes in blood biomarkers.

Results: Thirty-two patients were enrolled. After the switch, 2 patients had a relapse (suspected myelitis with no new MRI lesions) and discontinued ravulizumab; 1 patient stopped ravulizumab due to patient's preference, and the remaining patients were relapse-free and remained on treatment. The annual relapse rate among patients that had completed > 6 months of follow up decreased from 0.4 during satralizumab treatment (36±17.3 months) to 0.08 (11±0.9 months). PSL dose decreased from 7.0 mg/day before entry to mean 4.3 mg/day at 1 year follow-up. No serious adverse events occurred. Imaging studies revealed no new lesions or Gd+ lesions on brain and spinal cord MRI in all the patients. Before switching, the frequency of CD19+CD27-IgD- double negative B cells (%DNB) was significantly increased and that of unswitched memory B cells (%USM) was significantly decreased in patients compared with healthy controls. %DNB was significantly decreased ($p < 0.05$) at 1 year follow-up with ravulizumab.

Conclusion: Together these data demonstrate the clinical benefit of ravulizumab in patients with a sub-optimal response to satralizumab and suggest a unique immunological signature that may account for this benefit.

Disclosures: Wakiro Sato received speaker honoraria from Biogen, Novartis Pharma, Chugai, Mitsubishi Tanabe Pharma and Takeda Pharma.

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NMO SPOTLIGHT Registry: Real-World Clinical Outcomes with Eculizumab and Ravulizumab in Anti-Aquaporin-4 Antibody-Positive (AQP4-Ab+) Neuromyelitis Optica Spectrum Disorder (NMOSD)

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Background: The Alexion complement component 5 inhibitor therapies eculizumab and ravulizumab (ALXN-C5IT) are approved in multiple countries for adults with AQP4-Ab+ NMOSD. Real-world effectiveness and long-term safety data are still needed.

Objective: To report real-world safety and effectiveness data for ALXN-C5IT in adults with AQP4-Ab+ NMOSD from the ongoing NMO SPOTLIGHT Registry (NCT05966467).

Methods: In this global multicentre observational study, physician-reported relapses, concomitant medications, emergency room (ER) visits or hospitalisations, meningococcal vaccination/infection data, and serious adverse events were collected retrospectively from 1yr before ALXN-C5IT initiation and prospectively through data cutoff. NMOSD relapse was defined as new onset/worsening of neurologic symptoms for >24hrs requiring acute standard of care treatment preceded by ≥30d of clinical stability. Data were summarised for all patients (pts).

Results: 176 adults (156 [88.6%] female; median [interquartile range (IQR)] age at consent, 56 [45.5-65.0] yrs) enrolled in the Registry from 30 Aug 2023 to 3 Nov 2025. Median (IQR) exposure to ALXN-C5IT was 31.8 (14.7-57.0) mo. In the 1yr prior to ALXN-C5IT, 55 (31.3%) pts had 71 relapses (annualised relapse rate [ARR]: 0.40 [95% CI: 0.31-0.51]); 12/55 (21.8%) had >1 relapse. During ALXN-C5IT, 9 (5.1%) pts had 12 relapses (ARR: 0.02 [95% CI: 0.01-0.04]); 3/9 (33.3%) had >1 relapse. The proportion of pts with ER visits/hospitalisations due to relapse and average daily corticosteroid dose also decreased during ALXN-C5IT. Most pts (167 [94.9%]) received ≥1 meningococcal vaccination in the 1yr prior to initiating ALXN-C5IT. No meningococcal or other vaccinations were received in the 4wks before relapse; no meningococcal infections were reported. Among pts who switched from rituximab to ALXN-C5IT, data were comparable to overall Registry population data (ARR decreased from 0.66 to 0.01).

Conclusion: These results demonstrate the strong clinical benefit of ALXN-C5IT in AQP4-Ab+ NMOSD relapse prevention and reducing healthcare resource utilisation in a global real-world setting. No new safety signals were detected.

Disclosures: LA has participated in advisory boards and served as a consultant with Alexion, EMD Serono, Genentech, Novartis, Octave, and TG Therapeutics. She is a site PI for Alexion, Genentech, and Sanofi/Genzyme, clinical studies. LA is supported by Global Brain and Nervous System Disorders/Fogarty (award: 1RF1TW013272-01), National Institutes of Health, and NINDS (awards: R01NS123398, R01AI170863). HJK has received a grant from the Korea-US Collaborative Research Project and the National Research Foundation of Korea; received research support from AprilBio, Eisai, Good T cells and UCB; received consultancy/speaker fees from Alexion, Altos Biologics, AstraZeneca, Biogen, Daewoong Pharmaceutical, Eisai, GC Pharma, Kaigene, MDimune, Merck, Mitsubishi Tanabe Pharma, Roche, Samsung Bioepis, and Sanofi; is a co-editor for the Multiple Sclerosis Journal and an associated editor for the Journal of Clinical Neurology. KM has received speaker honoraria from Alexion Pharma G.K., Argenx Japan, Biogen Japan, Chugai Pharmaceutical, Mitsubishi Tanabe, and Novartis Pharma K.K. AZO has received consultancy/speaker fees for Alexion, Amgen, AstraZeneca, Banner Life Sciences, BD Biosciences, Biogen, Biologix Solutions, Bristol Myers Squibb, Celgene, EMD Serono, Genentech, GW Pharmaceuticals, Horizon Pharmaceuticals, Jazz Pharmaceuticals, Merck, Novartis, Roche, Sandoz, Sanofi/Genzyme, TG Therapeutics, and Viela Bio; has served as an expert opinion and key opinion leader with MJH Life Sciences; is a board member with CMSC and IJMSC; and serves as a reviewer editor with Frontiers in Neurology. ER has served on a speaker's bureau for TG Therapeutics and has received research funding from Alexion, Bristol Myers Squibb, Corevitas, Genentech, Li Ka Shing Institute of Unity Health Toronto, Novartis, Sanofi, and TG Therapeutics. DLR has received research support from Alexion, Amgen, Canada's Drug Agency, Guthy-Jackson Foundation, MS Canada, the National MS Society, Ontario AFP Innovation Funds, and Peter and Susan Gordon. She has received speaking or consulting fees from Alexion, Amgen, Biogen, EMD Serono, Novartis, Roche, and Sanofi. ESS has received compensation for serving on a scientific advisory or data safety monitoring board for Alexion, Amgen, Genentech, and TG Therapeutics; has received research support from Ad Scientiam, Alexion, Astoria Biologica, Corevitas, Genentech, National Institutes of Health, National Multiple Sclerosis Society, Sumaira Foundation, and UCB; and has received compensation for serving as an ad hoc reviewer with the National Institutes of Health. VT has received consultancy/speaker fees and travel grants from AstraZeneca, Biogen, Merck, Novartis, and Roche. SF is an employee of Alexion, AstraZeneca Rare Disease, and holds stock or stock options in AstraZeneca. LMP is an employee of Alexion, AstraZeneca Rare Disease, and holds stock or stock options in AstraZeneca. SQ is an employee of Alexion, AstraZeneca Rare Disease, and holds stock or stock options in AstraZeneca.

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Early Addition of Ravulizumab for Acute Neuromyelitis Optica Spectrum Disorder Attacks

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Background: Complement inhibitors target the complement pathway that drives astrocytic injury in aquaporin-4 (AQP4)-seropositive Neuromyelitis Optica Spectrum Disorder (NMOSD). Owing to their rapid onset of action, there is increased interest in their role in treating acute NMOSD, particularly in severe attacks poorly responsive to standard intravenous methylprednisolone (IVMP) and plasmapheresis (PLEX).

Objective: To describe early complement inhibitor use in patients with acute NMOSD attacks.
Methods: Retrospective case series
Results: Three patients with AQP4-seropositive NMOSD were treated with a complement inhibitor during an acute attack. Ages were 22, 47 and 62 years; all were female. NMOSD was newly diagnosed in one. The patients received Ravulizumab 13, 20 and 22 days after onset of their attack, within 3 days of completing IVMP and PLEX. The clinical indication was poor recovery following IVMP and PLEX in two patients with optic neuritis (ON) (nadir visual acuity: counting fingers and hand movements). The third patient received Ravulizumab for a fulminant, progressive NMOSD attack: despite early treatment after initial myelitis, she developed worsening motor weakness (MRC grade 0) with tandem development of ON while receiving IVMP and PLEX. Post-Ravulizumab, both patients with isolated ON improved (VA 6/30 and 6/12 respectively, 3 months after their attack[YG1.1]). In the patient with the fulminant attack, the clinical course stabilised, with recovery of vision and improvement in motor power by 3 months.
Conclusion: Complement inhibition may have an additional role alongside standard IVMP and PLEX in the treatment of acute NMOSD attacks. Further studies are needed to confirm its role in acute management.
Disclosures: None.

P-91

Fenebrutinib Reduces CSF Microglial and Astrocyte Biomarkers Expressed at or Near Chronic Active Rim Lesions in Patients With RMS or PPMS

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Background: Disability progression in MS links to central nervous system (CNS) chronic active lesions (CALs) with activated microglia. Fenebrutinib (FEN), an oral, highly selective Bruton's tyrosine kinase inhibitor with optimized pharmacokinetic/pharmacodynamic profile, may target microglial signaling in CNS. Cerebrospinal fluid (CSF) CHIT1 and SERPINA3 levels may reflect progressive biology targeted by FEN.
Objective: To assess the effect of FEN on CSF CHIT1 and SERPINA3 levels in patients with relapsing MS (RMS) or primary progressive MS (PPMS), and to contextualize the source of these markers in spatial expression data within CALs.
Methods: Pooled data from optional substudies in RMS (FENhance1/2 [NCT04586010/NCT04586023]: n=13 teriflunomide [TFM], n=9 FEN) and PPMS (FENtrepid [NCT05119569]: n=3 ocrelizumab [OCR], n=7 FEN) were analyzed. CHIT1 and SERPINA3 levels at Week (W)12 and W96 vs baseline (BL) were evaluated using Wilcoxon signed rank test. Gene expression was mapped to a separate integrated public brain cell atlas from autopsy tissue, including microglial and astrocyte subtypes, with relative distance from CALs assessed using spatial transcriptomics.
Results: In the pooled FENhance RMS studies, CHIT1 was substantially lowered at W12 in the FEN arm (median [IQR] % change from BL: −26.1% [−36.4, −22.5], P=0.004) and W96 (−78.4% [−86.7, −68.0], P=0.008), but not the TFM arm (W12: 1.0% [−4.5, 19.2]; W96: −30.9% [−49.5, 2.9], both P>0.05). In the FENtrepid PPMS study, CHIT1 was reduced at W12 in the FEN arm (−51.7% [−57.9, −32.6], P=0.031). Trends for CHIT1 reduction were observed in FEN PPMS arm at W96 and OCR PPMS arm at W12 and W96. SERPINA3 was lowered at W96 in the FEN RMS arm (−32.0% [−38.9, −11.4], P=0.023), but not the TFM arm (W96: 38.3% [10.1, 56.3], P>0.05). Nonsignificant trends in SERPINA3 reduction were also observed in the FEN and OCR PPMS arms. Using single-cell expression datasets, CHIT1 was expressed in lesion-associated foamy or activated microglia and SERPINA3 in reactive astrocytes. Spatially, CHIT1 was concentrated in CAL rims, while SERPINA3 was more broadly expressed in the lesion core, rim and the periplaque white matter.
Conclusion: FEN reduced CSF biomarkers specifically expressed at or near the CAL rim in microglia and astrocytes. CHIT1 levels decreased as early as 12 weeks, suggesting that FEN rapidly modulates activated microglia linked to MS progressive biology.
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P-92

Natalizumab Bridging Before Ofatumumab After Fingolimod Discontinuation in Relapsing MS: A 12-Patient Case Series

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Background: Discontinuation of fingolimod (FTY) may be followed by rebound inflammatory activity, which can be clinically severe. In practice, transitioning from FTY to anti-CD20 therapy can be challenging, particularly when treatment sequencing is needed to minimize relapse risk. Natalizumab (NAT) may offer a potential bridging strategy before ofatumumab (OFA) initiation; however, clinical data on this approach remain limited.

Objective: To assess the effectiveness and safety of short-term NAT bridging before OFA initiation after FTY discontinuation in patients with relapsing–remitting multiple sclerosis (RRMS).

Methods: We conducted a single-center retrospective case series of RRMS patients who underwent sequential treatment with FTY, NAT bridging, and subsequent OFA. Clinical relapses, MRI activity, and disability outcomes were evaluated from medical records. Annualized relapse rates (ARRs) were assessed across treatment periods.

Results: Twelve patients with RRMS underwent FTY-to-NAT-to-OFA sequencing. The cohort was predominantly female (83%), with a mean age at onset of 26.4 ± 9.6 years and a mean follow-up of 13.4 ± 3.1 years from disease onset. The pooled clinical ARR decreased from 0.56 in the pre-FTY period to 0.08 during FTY treatment. No clinical relapses were observed during the first 90 days after FTY discontinuation or during the overall post-FTY follow-up period in this series. No overt rebound syndrome was identified during NAT bridging or after the switch to OFA. Disability was generally stable during follow-up.

Conclusion: In this retrospective case series, short-term NAT bridging before OFA initiation after FTY discontinuation was associated with the absence of early post-discontinuation clinical relapses and no apparent rebound syndrome. This strategy may represent a practical option for selected patients requiring FTY withdrawal, although larger controlled studies are required to confirm these findings.

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P-93

Differential Effects Of Remibrutinib On Trans-Endothelial Migration Of MS-Derived Immune Cells In An In Vitro Blood-Brain Barrier Model

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Background: Multiple sclerosis (MS) is a chronic autoimmune disease of the central nervous system affecting ~2.8 million people globally. Despite existing therapies, some patients experience suboptimal disease control or disability progression. Bruton's tyrosine kinase (BTK) regulates signalling pathways involved in B cells and microglia/macrophages, which contribute to inflammation in MS.

Objective: Remibrutinib is a potent BTK inhibitor that modulates B cell and microglia/macrophage activity. Remibrutinib showed efficacy in pre-clinical MS models, yet its impact on leukocyte trans-endothelial migration is unknown. Our aim was to characterize the effect of remibrutinib on human peripheral blood mononuclear cell (PBMC) trans-endothelial migration across an in vitro blood-brain barrier model.

Methods: PBMCs from people with relapsing–remitting MS and healthy controls were seeded into transwell inserts containing a monolayer of human cerebral microvascular endothelial cells stimulated with tumor necrosis factor and interferon-ɣ. Chemokines, CXCL12 and CXCL13, were added to the bottom chamber to drive chemotactic immune cell migration. After overnight incubation, migrated PBMCs were stained with a 27-colour spectral flow panel to phenotype B cell, T cell and monocyte subsets and assess activation states.

Results: Remibrutinib significantly reduced trans-endothelial migration of transitional B cells and CD4+ and CD8+ T cells from MS donors. Conversely, remibrutinib increased monocyte migration in healthy and MS samples. Reduced B cell migration was accompanied by lower expression of activation markers CD80, CD86, CD274, and CD69. Remibrutinib had divergent effects on CD62L, with increased CD62L observed on migrated B and T cells and reduced CD62L on monocytes. Migrated monocytes treated with remibrutinib also showed higher CD49d and lower CD80 expression compared with untreated cells.

Conclusion: Remibrutinib reduced migration of B cell and T cell subsets derived from people with MS while increased monocyte migration was observed. These findings suggest that remibrutinib may differentially modulate immune-cell trafficking and activation across leukocyte subsets; further experiments are warranted to confirm the functional relevance of the observed monocyte effects.

Disclosures: N/A

P-94

Real-World Experience with Rituximab Maintenance Therapy in Neuromyelitis Optica Spectrum Disorder: A Single-Center Study from Taiwan

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Background: Rituximab is an effective maintenance therapy for neuromyelitis optica spectrum disorder (NMOSD). However, because rituximab is not routinely reimbursed by Taiwan's National Health Insurance for NMOSD, financial constraints have led to heterogeneous dosing regimens and individualized retreatment strategies.
Objective: This study aimed to evaluate the real-world effectiveness, safety, memory B-cell depletion, and retreatment patterns of rituximab maintenance therapy in patients with NMOSD.
Methods: We conducted a single-center retrospective study of patients with NMOSD who received rituximab maintenance therapy between January 2019 and June 2026. Patients were categorized according to annual rituximab dose into a high-dose regimen (2,000 mg/year) and a low-dose regimen (≤1,000 mg/year). Demographic characteristics, aquaporin-4 immunoglobulin G (AQP4-IgG) serostatus, annualized relapse rate (ARR), Expanded Disability Status Scale (EDSS) scores, peripheral memory B-cell measurements, retreatment intervals, and treatment-related adverse events, including infusion reactions, infections, hypogammaglobulinemia, and hematologic complications, were collected. The primary endpoints were changes in ARR following rituximab treatment. Secondary endpoints included EDSS, relapse-free survival, insufficient memory B-cell depletion, time to rituximab retreatment, and treatment-related adverse events.
Results: Thirty patients were included, with a median follow-up duration of 29 months. Rituximab maintenance regimens varied in induction dose, maintenance dose, and retreatment strategy. The median ARR decreased after rituximab treatment, and most patients remained relapse-free throughout follow-up. Disability remained stable or improved in the majority of patients. Insufficient memory B-cell depletion was observed in a subset of patients and was associated with earlier retreatment. Treatment was generally well tolerated. The most common adverse events were infusion reactions, infections, and hypogammaglobulinemia, while serious adverse events were uncommon.
Conclusion: Rituximab was associated with reduced relapse activity in this real-world NMOSD cohort despite heterogeneous dosing and retreatment schedules. Monitoring memory B-cell depletion may be helpful for the individualization of rituximab retreatment, particularly in resource-constrained settings.
Disclosures: None

P-95

AC-04, a Triterpenoid Extract from Antrodia cinnamomea, Improves Clinical Outcomes and Attenuates Plasma NfL Elevation in Spinocerebellar Ataxia: A Randomized, Double-Blind, Crossover Study

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Background: Antrodia cinnamomea, rich in bioactive triterpenoids, exhibits potential neuroprotective properties, making its extract AC-04 a candidate for treating neuroinflammation of spinocerebellar ataxia (SCA) patients. SCA is a group of progressive, inherited neurodegenerative disorders and no disease-modifying therapies exist currently.

Objective: This study evaluated the efficacy, safety, and pharmacodynamic biomarker responses of AC-04 in patients with genetically confirmed SCA, focusing on clinical scale performance and longitudinal changes in age-adjusted plasma neurofilament light chain (NfL) levels.
Methods: We conducted a randomized, double-blind, placebo-controlled, two-period, two-sequence (Treatment-Placebo/ Placebo-Treatment) crossover pilot study in 22 patients with genetically confirmed SCA. Participants received oral AC-04 (15 mg/day) or placebo for 8 weeks per period, separated by a washout period. Clinical endpoints—including the Scale for Assessment and Rating of Ataxia (SARA), Nine-Hole Peg Test (9HPT), Hospital Anxiety and Depression Scale (HADS), and Pittsburgh Sleep Quality Index (PSQI)—were evaluated across study visits. Plasma NfL concentrations were measured using Ella automated microfluidic immunoassay, converted into age-corrected Z-scores against a healthy reference model, and analyzed using a linear mixed-effects model (LMM) with restricted maximum likelihood estimation. Safety was continuously monitored throughout the trial.
Results: In SCA patients, AC-04 8 weeks short-term oral treatment demonstrated partial improvements, but no statistically significant difference, in fine motor function and quality-of-life parameters, including 9HPT, HADS, and PSQI scores compared to placebo. Longitudinal biomarker analysis revealed a significant treatment-by-time interaction in age-adjusted plasma NfL Z-scores (β=-0.0248/week, 95% CI: -0.0451 to -0.0045), indicating a sustained suppression of neuroaxonal damage progression during active treatment that was absent in the placebo period. Independent responder analysis confirmed that 63.6% of evaluable participants experienced superior NfL trajectory responses on AC-04. Treatment was well-tolerated with no serious adverse events (SAEs) reported among all 22 subjects.
Conclusion: AC-04 demonstrates potential clinical benefits and neuroprotective effects by improving functional outcomes and attenuating plasma NfL elevation in SCA. These findings validate age-adjusted plasma NfL as a sensitive pharmacodynamic biomarker and provide a strong rationale for future large-scale confirmatory trials.
Disclosures: No

P-96
Case report: Skin Warts during Fingolimod Treatment in Patient with Multiple Sclerosis
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Background: Fingolimod, a sphingosine-1-phosphate (S1P) receptor modulator that reduces the number of peripheral blood lymphocytes, is used in the treatment of multiple sclerosis (MS). Despite its strong immunomodulatory effects, data suggests that fingolimod is associated with various infections. We describe a case of skin warts seen in MS patients treated with fingolimod.
Objective: CASE REPORT
Methods: A female patient diagnosed with multiple sclerosis in 2021 and treated with fingolimod for 3 years presented with complaints of blisters on her hands. A dermatology consultation resulted in a diagnosis of warts. The patient's lymphocyte count varied between 0.32 and 0.52 103 uL during the fingolimod treatment. Anti-HIV antibody level was found to be negative (0.261 COI). Considering that the condition might be related to her immunosuppressive treatment, fingolimod treatment was discontinued. The skin lesions disappeared within 2 months of discontinuing the medication.

Results: Fingolimod interacts with S1P receptors, preventing egress of lymphocytes from the lymphoid tissue. The causal link between fingolimod treatment and warts has not yet been proven. The prolonged peripheral lymphopenia accompanying fingolimod raised concerns regarding increased risk of infections. During fingolimod treatment, a general incidence of 2.2% of patients reported developing skin and mucosal warts, particularly those associated with HPV. The temporal relationship between discontinuation of treatment and healing of lesions, as in our case, supports a possible causal role of fingolimod.
Conclusion: A female multiple sclerosis patient treated with fingolimod is presented with skin warts, along with laboratory and imaging findings and a review of the literature.
Disclosures: No

P-97
Confirmed disability improvement in multiple sclerosis
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Background: Newer disease-modifying therapies in multiple sclerosis increasingly show effect on improving multiple sclerosis disability. The long-term benefits of confirmed disability improvement events remain uncertain.
Objective: To explore confirmed disability improvement (CDI) events in multiple sclerosis (MS).
Methods: Data were prospectively collected (January 1995-April 2025) through the MSBase international registry. 60,678 participants with adequate follow-up were identified. Different confirmation windows were compared based on likelihood of CDI remaining sustained at 5-years. Multivariable logistic regression models analysed associations between demographic and disease characteristics and likelihood of CDI. Using propensity-score-matching, the following outcomes were compared in those who did and did not experience CDI: Expanded Disability Status Scale (EDSS) change over 5-years (linear mixed-effects model); hazard of reaching EDSS≥6 and secondary progressive MS (SPMS; Cox proportional-hazards models); cumulative hazard of confirmed disability worsening (CDW) and relapses (Andersen-Gill models).
Results: 12-month-confirmation window provided the most robust definition. CDI occurred more frequently on therapy (69.6% of events), earlier in MS (median 7.7 years from onset, quartiles:3.2-14.9), and soon after therapy initiation (median 1.6 years, quartiles:0.7-3.6). Therapy use was associated with greater CDI odds (OR:1.46-2.08, increasing with efficacy). Compared to propensity-score-matched controls, participants experiencing CDI had EDSS score 1.45 points lower (95%CI=1.40-1.49) at 5-years, lower hazard of EDSS≥6 (HR=0.32, 95%CI=0.28-0.36) and SPMS (HR=0.55, 95%CI=0.50-0.60). Following CDI, cumulative hazard of relapses was lower (HR=0.83, 95%CI=0.78-0.88) but not of CDW (HR=0.97, 95%CI=0.93-1.02).
Conclusion: CDI events occur more frequently during early MS and after initiating higher-efficacy therapies. Long-term disability outcomes are better following CDI. This is mostly driven by resetting of EDSS to the previous disability level. CDI is a meaningful treatment target in MS.
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P-98
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P-99
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P-100
Real-World Effectiveness and Safety of Cladribine Tablets in Patients With Active Relapsing Multiple Sclerosis in Malaysia

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Background: Despite increasing use of cladribine tablets (CladT) in Malaysia for the treatment of relapsing multiple sclerosis (RMS), local real-world evidence on its effectiveness and safety remains limited.

Objective: To evaluate the real-world effectiveness and safety of CladT in patients with RMS (PwRMS) in Malaysia.

Methods: This retrospective, observational study was conducted at two centres in Malaysia. Adult PwRMS who completed Year 2 treatment with CladT by 01 April 2026 were included. The outcomes included assessment of acute relapses before and after CladT initiation, magnetic resonance imaging (MRI) activity, disability progression assessed using Expanded Disability Status Scale (EDSS), and safety outcomes.

Results: Eleven participants with active RMS were recruited; the mean (SD) age at CladT initiation was 34.9 (1.79) years and 72.7% were female. Baseline median EDSS was 1.0 (0.0–2.0). Year 3 and Year 4 follow-up was completed by 8 (72.7%) and 5 (45.5%) participants, respectively. Most participants (10/11; 90.9%) remained relapse-free with stable MRI findings throughout treatment at Year 2, except one participant. Median EDSS remained stable from 1.0 at baseline to 0.0 at the latest available follow-up (median follow-up: 18 months), suggesting no disability progression in the overall PwRMS. Approximately 18.1% (2/11) of PwRMS experienced at least one adverse event (AE), including urinary/upper respiratory tract infection (n=1) and mild headache (n=1). No serious AEs and treatment discontinuations due to AEs were reported. Furthermore, no new or unexpected safety concerns, malignancies, opportunistic infections (including progressive multifocal leukoencephalopathy), or deaths were reported.

Conclusion: These real-world findings demonstrate that CladT was associated with low acute relapses, stable clinical and radiological disease activity, and favourable safety profile in PwRMS in Malaysia, supporting its role in routine clinical practice.

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P-101

Time To Relapse In Patients With Relapsing MOGAD Treated With Satralizumab: Results From The Phase 3 METEOROID Study

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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) is a demyelinating disease in which disability is driven by relapses. Interleukin-6 (IL-6) plays a key role in MOGAD pathogenesis. Satralizumab blocks the IL-6 receptor. The Phase 3 METEOROID study (NCT05271409/jRCT2021220005) evaluated satralizumab in patients with MOGAD.

Objective: To report the time to first adjudicated relapse in the METEOROID study and show clinically relevant supplementary analyses that confirm the robustness of the primary endpoint results and their transferability into clinical practice.

Methods: METEOROID, a randomised, double-blind, placebo-controlled study, enrolled patients (aged ≥12 years) with relapsing MOGAD (≥1 relapse in the last 12 months or ≥2 attacks in the last 24 months). Patients were randomised 1:1 to satralizumab or placebo ± concomitant immunosuppressive therapy. Satralizumab was administered subcutaneously at Weeks 0, 2, 4 and every 4 weeks thereafter. The primary endpoint was time to first relapse, adjudicated by an independent committee (Clinical Endpoint Committee [CEC]). A key secondary endpoint was the use of rescue therapy. Time to first relapse or use of rescue therapy are clinically relevant endpoints as they capture relapses confirmed by the CEC and/or requiring rescue therapy.

Results: There were 132 patients randomly assigned to satralizumab (n=68) or placebo (n=64). Satralizumab treatment prolonged the time to first relapse vs placebo, resulting in a 68% reduction in the risk of an adjudicated MOGAD relapse (hazard ratio (HR): 0.32; 95% confidence interval [CI]: 0.15–0.70; P=0.0025). Nine patients (13%) in the satralizumab arm and 24 patients (38%) in the placebo arm experienced an adjudicated relapse. Rescue therapy was less frequently required in the satralizumab group (n=13, 19%) compared with placebo (n=28, 44%; odds ratio: 0.28 95% CI: 0.12–0.63; P=0.0024). When applying a composite

strategy for rescue therapy, in which time to first adjudicated relapse or first use of rescue therapy was analysed, satralizumab reduced the risk of relapse by 63% compared with placebo (HR: 0.37, 95% CI: 0.19–0.73; P=0.0025).
Conclusion: Satralizumab significantly reduced the risk of relapse in patients with relapsing MOGAD compared with placebo. Supplementary analyses support the robustness of the primary endpoint; results from adjudicated clinical trial events were consistent with the approach in routine clinical practice, indicating that the observed treatment effect is robust.
Disclosures: None.

P-102
Severity And Recovery Of Relapses In Patients With Relapsing MOGAD Treated With Satralizumab: Results From The Phase 3 METEOROID Study
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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) is a demyelinating disease. Relapse timing, frequency and severity are important determinants of disability in MOGAD, yet no therapies are approved for relapse prevention. METEOROID (NCT05271409/jRCT2021220005) assessed the effect of satralizumab (SAT) on time to relapse, severity and recovery in patients with relapsing MOGAD.
Objective: To characterise the impact of SAT on relapse recovery in the Phase 3 METEOROID study.
Methods: METEOROID, a randomised, double-blind (DB), placebo (PBO)-controlled study, enrolled patients (≥12 years) with relapsing MOGAD (≥1 relapse in the last 12 months or ≥2 attacks in the last 24 months). Patients were randomised 1:1 to SAT or PBO ± concomitant immunosuppressive therapy. SAT was administered subcutaneously at Weeks 0, 2, 4 and every 4 weeks thereafter. The primary endpoint was time to first relapse, adjudicated by an independent committee. Exploratory endpoints included overall disability progression, first adjudicated relapse severity and recovery and impact on residual visual disability. Relapse severity was assessed at each event and reassessed at 12 weeks to evaluate recovery.

Results: Overall, 132 patients were randomly assigned to SAT (n=68) or placebo (n=64). Nine patients (13.2%) in the SAT arm and 24 (37.5%) in the PBO arm experienced an adjudicated relapse. Overall disability progression, indicated by change from baseline in Expanded Disability Status Scale (EDSS) to the end of the DB treatment period or first adjudicated relapse, was numerically greater in PBO vs SAT (median [range] 0.50 [–3.0 to 4.0] vs 0 [–2.5 to 3.0]). Patients in both arms showed worsening disability from pre-relapse to adjudicated relapse assessment (median EDSS change of 1.5 [0 to 3.0] and 0.8 [–2.0 to 5.0] in the SAT and PBO arms, respectively). Patients also demonstrated recovery from relapse to the 12-week post-relapse assessment (median EDSS change of –2.0 [–3.0 to 0] and –0.5 [–4.5 to –2.5] in the SAT and PBO arms, respectively). Residual visual disability 12 weeks after relapse was observed in 1/9 (11.1%) and 4/24 (16.7%) patients in the SAT and PBO arms, respectively.
Conclusion: METEOROID previously reported a prolonged time to first relapse with SAT. These additional data indicate that although attacks appeared more severe with SAT, patients experienced better recovery and less residual disability than with PBO, suggesting that in addition to decreasing relapse rates, SAT could also improve post-attack outcomes.
Disclosures: None.

P-103
Pregnancy outcomes in Asian women with Multiple Sclerosis treated with Cladribine: A Nation-Wide Observational Cohort from Singapore
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Background: Cladribine is an FDA approved disease modifying treatment (DMT) for relapsing remitting multiple sclerosis (RRMS) and has been used in Singapore since 2018. Data on pregnancy outcomes following cladribine exposure in Asian patients with MS remains limited.
Objective: To evaluate maternal and foetal outcomes in our cohort of Asian women in Singapore with RRMS who were treated with cladribine prior to pregnancy.
Methods: We conducted an observational study of patients with RRMS who received Cladribine at the National Neuroscience Institute and National University Hospital, Singapore (2018 to 2025). Duration of cladribine exposure, interval from the end of the conception safety window (6 months after last dose) to conception, foetal outcomes (congenital abnormalities, prematurity, or perinatal complications) and peripartum maternal outcomes (disease activity) were recorded. Disease activity was defined as clinical relapse and/or radiological activity (≥2 new or ≥1 enhancing MRI lesion).
Results: Nine pregnancies occurred post- cladribine exposure. Three patients were treatment naïve; remainder had previous DMT. Median age was 33 years (range 28-36) and median disease duration until cladribine initiation was 6 years (range 3-11). Eight pregnancies occurred after completing the two-year cladribine regimen; one pregnancy occurred after one year of treatment. Median duration between the end of the conception safety window and conception was 18 months (range 6-38). All were term deliveries (three vaginal, one vacuum assisted, two

elective LSCS, and one emergency LSCS, one patient is due for delivery, and one lacked data). Postpartum median follow-up period was 3 months (range 1-17). Median EDSS pre partum was 0, with worsening EDSS in one patient (pre-partum EDSS 0 to post-partum 2), whose MRI showed new disease activity. Median time to Postpartum MRI (n=6) was 4 months (range 1-9). No foetal complications were observed.
Conclusion: Our cohort demonstrated favourable maternal and foetal outcomes. Except for one patient with disease activity post-partum, MS was quiescent in the rest, supporting cladribine's safety and efficacy in Asian women of childbearing age, consistent with European data.
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P-104
Efficacy and Safety of Remibrutinib vs Teriflunomide in Relapsing Multiple Sclerosis: Results of the Phase 3 REMODEL-1/-2 Trials
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Refer to O-2 in Plenary Oral Presentation – 1

P-105
Seronegative Myasthenia Gravis Developing After Alemtuzumab Therapy in a Patient with Multiple Sclerosis: A Case Report
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Background: Alemtuzumab is a highly effective immune reconstitution therapy for relapsing-remitting multiple sclerosis (RRMS). Although secondary autoimmune thyroid disease is the

most frequent adverse event, myasthenia gravis (MG) is an exceptionally rare autoimmune complication.
Objective: To present a rare case of seronegative MG developing after alemtuzumab therapy in a patient with RRMS and to emphasize the importance of recognising delayed secondary autoimmune complications during long-term follow-up.
Methods: We retrospectively reviewed the clinical course, imaging findings, electrophysiological studies, laboratory investigations, and treatment response of a 35-year-old woman with RRMS who developed neuromuscular symptoms following alemtuzumab therapy. Brain magnetic resonance imaging (MRI), acetylcholine receptor (AChR) and muscle-specific kinase (MuSK) antibodies, single-fibre electromyography (SFEMG), chest computed tomography (CT), and clinical follow-up findings were evaluated.
Results: The patient was diagnosed with RRMS in 2020 and initially received glatiramer acetate. Following breakthrough disease activity, treatment was switched to fingolimod, which was discontinued because of pregnancy. A severe postpartum relapse refractory to corticosteroids was successfully treated with plasma exchange, after which alemtuzumab was initiated. Subsequent follow-up demonstrated sustained clinical and radiological remission. Later, she developed fluctuating unilateral ptosis and fatigability without evidence of MS relapse on brain MRI. AChR and MuSK antibodies were negative, whereas SFEMG demonstrated abnormal neuromuscular transmission consistent with MG. Chest CT revealed no thymic pathology. Seronegative MG was diagnosed, and pyridostigmine treatment resulted in marked clinical improvement.
Conclusion: Alemtuzumab-associated seronegative MG is a rare secondary autoimmune complication. New fluctuating ocular symptoms in patients with MS should not automatically be attributed to relapse. Awareness of delayed autoimmune complications is essential during long-term follow-up after alemtuzumab therapy.
Disclosures: The authors declare no conflicts of interest.

P-106
Multiple Sclerosis in the Setting of HIV Infection: A Multicentre Case Series
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Background: Multiple sclerosis (MS) and human immunodeficiency virus (HIV) infection rarely coexist. HIV-associated immune dysregulation and the widespread use of highly active antiretroviral therapy (HAART) have been proposed to influence MS disease activity, although available evidence remains limited.
Objective: To describe the clinical characteristics, disease course, disability outcomes, and treatment patterns of patients with coexisting MS and HIV.
Methods: Patients fulfilling the 2017 McDonald diagnostic criteria for MS and with confirmed HIV infection from four tertiary neurology centres were retrospectively identified. Demographic characteristics, clinical phenotype, relapse history, MRI findings, Expanded Disability Status Scale (EDSS) scores, HIV diagnosis timing, and treatment profiles were collected.

Results: Six patients (4 males, 2 females; mean age 38.2±7.3 years) with a mean follow-up of 65.7±49.5 months were included. Five patients had relapsing-remitting MS and one had secondary progressive MS. MS preceded HIV diagnosis in four patients. Initial clinical presentations were optic neuritis (n=2), polysymptomatic onset (n=2), motor weakness (n=1), and sensory symptoms (n=1). The mean number of relapses during follow-up was 2.0±0.8, and only one patient experienced a relapse around the time of HIV diagnosis. All patients received HAART; five received first-line disease-modifying therapies, while one remained untreated for MS. Mean EDSS was 1.25±0.41 at baseline and 1.25±0.98 at the last follow-up. Disability improved in two patients, remained stable in two, and worsened in two.
Conclusion: Clinical outcomes were heterogeneous among patients with coexisting MS and HIV. Most patients maintained low disability despite prolonged follow-up, although disease progression occurred in a subset. These findings suggest that HIV infection and HAART alone do not consistently suppress MS disease activity. Larger prospective multicentre studies are needed to clarify the interaction between HIV-rel *Editors Note – information provided by author incomplete.*
Disclosures: No

P-107
Implementation of a Standardised Checklist to reduce Missed Vaccinations in Patients Receiving C5 inhibitors
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Background: Ravulizumab & Eculizumab is a long-acting complement C5 inhibitor used in the treatment of Myasthenia Gravis and Neuromyelitis Optica Spectrum Disorder. As terminal complement inhibition increases susceptibility to infections by encapsulated bacteria, particularly meningococcal disease, adherence to recommended vaccination schedules is essential. However, vaccination requirements can be complex, with variations in clinical practice and differing interpretations of recommendations creating challenges in maintaining consistent vaccination management.
Objective: To improve vaccination assessment and standardise vaccination practices for patients receiving intravenous C5 inhibitors through the implementation of a nurse-led vaccination checklist.
Methods: A quality improvement initiative was conducted at NNI Singapore, a tertiary neuroscience centre. A standardised vaccination checklist was incorporated into the pre-infusion workflow for all patients receiving C5 inhibitors. The checklist guided nurses in reviewing vaccination status, verifying completion of recommended vaccinations, and identifying patients requiring further review. Any discrepancies or uncertainties were escalated to the neurology and infectious diseases (ID) teams to support timely intervention and ensure appropriate follow-up.
Results: Following implementation, eight active patients receiving intravenous c5 inhibitors were assessed using the checklist. Three patients (37.5%) were identified as having missed one or more recommended vaccinations that had not previously been recognised. The checklist enabled early detection of these gaps and facilitated discussions between the neurology and ID teams regarding vaccination management. This review revealed variation in vaccination practices among clinicians and prompted the development of a standardised vaccination

schedule agreed upon by the neurology and infectious diseases teams. The initiative improved the consistency of vaccination assessment, strengthened documentation, and ensured vaccination status was reviewed before each infusion appointment. Implementation of a nurse-led vaccination checklist successfully identified missed vaccination opportunities and highlighted practice variation in the management of patients receiving C5 inhibitor.
Conclusion: The project facilitated multidisciplinary collaboration, resulting in a standardised vaccination schedule that supports consistent, evidence- based care. This simple and sustainable intervention enhanced patient safety, improved communication across specialties, and provides a practical framework that may be adapted for other high-risk immunotherapy services.
Disclosures: Nil

P-108
Real-World Effectiveness and Safety of Cladribine Tablets in a Single-Centre Multiple Sclerosis Cohort
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Background: Real-world data are important for evaluating the effectiveness and safety of cladribine tablets in multiple sclerosis (MS).
Objective: To describe treatment outcomes, functional changes, and adverse events in patients receiving cladribine at a tertiary MS centre.
Methods: A single-centre cohort of 285 cladribine-treated patients was evaluated. Demographic and clinical characteristics, previous therapies, reasons for switching, Expanded Disability Status Scale (EDSS) scores, relapses, magnetic resonance imaging (MRI) activity, timed 25-foot walk, nine-hole peg test, treatment escalation, and adverse events were summarized descriptively.
Results: Mean age was 40.9 years and 73.8% of patients were women. Mean disease duration was 7.5±3.2 years and mean cladribine exposure was 2.1±1.2 years. Thirty-five patients (12.2%) were treatment-naïve. The leading reasons for cladribine initiation were adherence problems (20.3%), adverse effects of previous therapy (17.8%), and clinical and/or radiological activity. EDSS decreased from 2.1 at baseline to 2.0 at month 6 and 1.5 at years 1 and 2. Seven patients experienced 10 relapses, while MRI activity was observed in 18 patients. Five patients (1.7%) switched to ocrelizumab because of combined clinical and radiological activity. At year 1, timed 25-foot walk improved from 6.93±1.1 to 6.11±1.3 seconds and nine-hole peg test from 24.28±3.9 to 22.58±4.1 seconds. The most common adverse event was upper respiratory tract infection (5.2%).
Conclusion: Descriptive findings suggest that cladribine was associated with stable or improved disability, low clinical and radiological activity, and an acceptable safety profile over approximately two years.
Disclosures: No conflict of interest

P-109
Extended-Interval Dosing of Natalizumab Improved Disease Control and Treatment Adherence in Multiple Sclerosis: A Case Report
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Background: Extended-interval dosing (EID) of natalizumab maintains the efficacy of the drug while being associated with a lower risk of progressive multifocal leukoencephalopathy than standard-interval dosing. However, whether EID promotes treatment adherence by reducing the infusion burden is less well known.
Objective: To describe the clinical course of a patient with multiple sclerosis (MS), recurrent disease activity, and poor treatment adherence who received natalizumab every eight weeks.
Methods: We retrospectively reviewed the clinical course, treatment history, adherence, and magnetic resonance imaging (MRI) findings of our patient.
Results: A 19-year-old, male patient presented with memory impairment and left hemiparesis. MRI demonstrated limbic and spinal cord lesions. Cerebrospinal fluid oligoclonal bands were also detected. Intravenous methylprednisolone followed by oral glucocorticoid therapy was administered because autoimmune encephalitis was initially unable to be ruled out. At age 20 years, a new, asymptomatic brain lesion led to the diagnosis of MS, prompting the start of interferon beta-1a therapy. Adherence was poor; clinic attendance and self-injections became irregular, and he returned only after an 18-month absence. Dimethyl fumarate was administered at age 22 years. During this treatment, a symptomatic thoracic spinal cord relapse developed, and cerebral and cerebellar lesions were also detected. At age 25 years, he experienced a MS relapse with dysphagia, left facial weakness, and ataxia. MRI demonstrated new pontine, cerebellar, and periventricular lesions. After two courses of intravenous methylprednisolone, natalizumab was administered every eight weeks. Adherence improved, and he has remained free of clinical relapse for three years.
Conclusion: Eight-weekly natalizumab administration was associated with improved adherence and three years of freedom from clinical relapses. EID may be a pragmatic option for some patients with poor adherence although its causal contribution to adherence cannot be inferred from a single case.
Disclosures: The presenting author declares no conflicts of interest.

P-110
Real-World Experiences of Satralizumab for Neuromyelitis Optica Spectrum Disorders Treatment in Taiwan (SAkuraBeyond-T)-A Six-Month Interim Analysis of Multicentre Medical Chart Review.
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Background: Satralizumab is approved in Taiwan for relapse prevention of neuromyelitis optica spectrum disorder (NMOSD) in aquaporin-4 immunoglobulin G-seropositive (AQP4 IgG +) patients. The efficacy and safety of satralizumab in patients with NMOSD in a real-world setting in Taiwan remain limited.

Objective: To evaluate the real-world effectiveness and safety of satralizumab over a 26-week interim follow-up period in Taiwanese patients with AQP4 IgG+ NMOSD, and the primary endpoint is the annualised relapse rate (ARR) at week 26.
Methods: The AQP4 IgG + NMOSD patients receiving satralizumab treatment were enrolled into the SAkuraBeyond-T, an ongoing observational study. Data were derived from medical chart review. The ARR within 52 weeks before satralizumab initiation at 26-week were evaluated.
Results: Of the 48 patients enrolled in the primary analysis set, 97.9% (n = 47) were female, with a mean (standard deviation, SD) age of 50.5 (14.2) years. The ARR [95% CI] at week 26 after satralizumab initiation was 0.08 [0.02, 0.33] which is lower than that within 52 weeks before satralizumab initiation (1.58 [1.21, 2.05]). At week 26, 95.8% (n = 46) of satralizumab-treated patients remained relapse-free, compared with 20.0% (n = 9) in the pre-treatment period. Only 2 patients (4.2%) experienced a relapse during the 26-week follow-up period.
Conclusion: We reported that the 26-week relapse-free rate after satralizumab treatment in patients with AQP4 IgG + NMOSD in a real-world setting in Taiwan was 95.8 %. Of the 48 evaluated patients, only 2 patients (4.2%) experienced a relapse during the 26-week follow-up period. Our findings align with similar real-world setting evaluation in patients with AQP4 IgG + NMOSD in Japan and Phase 3 clinical trials.
Disclosures: No

P-111
Utilisation of Oral Cladribine in Relapsing Multiple Sclerosis at a Quartenary Referral Centre : A Pilot Real-World Study
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Background: Oral cladribine was introduced in Malaysia in 2020 and offers a short-course, high-efficacy treatment option for relapsing multiple sclerosis (RMS). However, real-world data on its utilisation, effectiveness, safety and funding challenges in Malaysia remain limited. This pilot study describes the early clinical experience at a quaternary referral centre.
Objective: To describe the real-world utilisation of oral cladribine in patients with relapsing multiple sclerosis, including clinical outcomes, safety, treatment patterns and funding challenges at a Malaysian quaternary referral centre.
Methods: This retrospective pilot study included patients with relapsing multiple sclerosis (RMS) treated with oral cladribine at Hospital Kuala Lumpur. Patient characteristics, disease phenotype, relapse history, disability status (EDSS), treatment exposure and selected safety outcomes were evaluated. Information on treatment utilisation, funding source and treatment patterns, including continuation and switching, was also summarised where available. Clinical outcomes before and after treatment, together with adverse events during follow-up, were described. Descriptive statistics were used to summarise treatment utilisation, clinical

outcomes and safety. The findings provide preliminary real-world experience with oral cladribine in Malaysia and will help inform future multicentre studies.
Results: Among 465 patients attending the MS clinic, approximately 4% received oral cladribine. Around two-thirds had relapsing-remitting MS and one-third had secondary progressive MS. Relapse rates and Expanded Disability Status Scale (EDSS) scores improved at Year 1 and remained stable at Year 2. One patient underwent redosing at Year 5, while two patients received more than three treatment courses. One patient switched to dimethyl fumarate because of funding limitations, and four patients who relapsed in Year 4 were unable to resume cladribine for the same reason. The main reasons for selecting oral cladribine were ease of administration, maintenance of employment or career, and reproductive planning. No cases of progressive multifocal leukoencephalopathy, sustained lymphopenia or severe adverse events were observed during follow-up.
Conclusion: Oral cladribine demonstrated favourable real-world utilisation, clinical outcomes and safety in patients with relapsing multiple sclerosis. Funding remains a major barrier to treatment continuity. These preliminary findings support further evaluation in larger multicentre studies to better define its role in the Malaysian setting.
Disclosures: The authors have no relevant conflicts of interest to disclose.

P-112
Withdrawn

P-113
Concurrent RCVS and AQP4-IgG-Positive NMOSD: A Case Report
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Background: The concurrent occurrence of reversible cerebral vasoconstriction syndrome (RCVS) and neuromyelitis optica spectrum disorder (NMOSD) has rarely been reported. Their coexistence creates diagnostic and therapeutic conflict because early angiography may be normal in RCVS, whereas glucocorticoids, the standard acute treatment for NMOSD, may worsen RCVS.
Objective: Here, we report a patient in whom RCVS and aquaporin-4-immunoglobulin G (AQP4-IgG)-positive NMOSD evolved concurrently, with multifocal cerebral vasoconstriction becoming evident and cerebral infarction developing during glucocorticoid treatment for a suspected myelitis.
Methods: 52-year-old woman presented to a local hospital with a thunderclap headache (Day 0). She had been taking phendimetrazine 35 mg three times daily for 6 months, and the dose had been increased to 70 mg three times daily 1 week before headache onset. Brain MRI showed subtle left lateral medullary diffusion hyperintensity without apparent diffusion coefficient (ADC) reduction, initially interpreted as infarction. Magnetic resonance angiography (MRA) was normal. Aspirin was started, and phendimetrazine was discontinued. Paraparesis appeared on Day 15, followed by hiccups and dysphagia on Day 16. By Day 19, it had progressed to MRC grade 1, with urinary retention and a T10 sensory level. Intravenous methylprednisolone (1 g/day) was initiated for suspected inflammatory myelitis. Approximately 10 hours after the second dose, abrupt abulia developed, prompting her transfer to our center.

Results: Brain MRI showed diffusion restriction in the left parasagittal frontoparietal region, consistent with acute cerebral infarction. MRA showed severe multifocal narrowing of the cerebral arteries. In contrast, the medullary lesion remained hyperintense on DWI but showed increased ADC, while FLAIR imaging demonstrated a contiguous lesion extending to the left dorsal pons. Spine MRI revealed a swollen, T2-hyperintense, enhancing T8–T10 lesion. CSF analysis showed pleocytosis and elevated protein levels. Thunderclap headache, sympathomimetic exposure, and delayed multifocal narrowing supported RCVS. The evolving brainstem and longitudinally extensive spinal cord lesions favoured a separate inflammatory disease. Further glucocorticoids were withheld, and plasma exchange and oral nimodipine were administered. Serum AQP4-IgG returned positive. By Day 50, MRA showed near-complete resolution of vasoconstriction. With rituximab treatment, she remained relapse-free with an EDSS of 3.0 at 2 years.
Conclusion: This case illustrates how the rare concurrence of RCVS and NMOSD can create diagnostic uncertainty and conflicting therapeutic priorities, such that standard treatment for one condition may aggravate the other. When a severe inflammatory CNS attack requiring urgent treatment coexists with suspected RCVS, early plasma exchange may be considered, particularly before administering glucocorticoids.
Disclosures: None.

P-114
TRACE-MS: A Real-World Registry Evaluating Long-Term Effectiveness and Safety of Cladribine in Relapse-Remitting Multiple Sclerosis in Taiwan
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Background: Multiple sclerosis (MS) is a rare disease in Taiwan. Cladribine was reimbursed since January 2020 for patients with highly active relapsing–remitting MS (RRMS) who have received at least one disease-modifying therapy (DMT). However, real-world evidence on its use and long-term clinical outcomes in Taiwan remains limited.
Objective: To evaluate the effectiveness, treatment persistence, and safety of cladribine tablets in routine clinical practice in Taiwan.
Methods: This prospective, multicentre, observational registry enrolled adults (aged ≥20 years) with RRMS who initiated cladribine between January 2020 and July 2025 at seven sites

in Taiwan. This abstract presents baseline characteristics, clinical effectiveness (annualised relapse rate [ARR] and Expanded Disability Status Scale [EDSS]), treatment persistence, and safety in patients who completed 2 years of follow-up after treatment initiation.
Results: Overall, 89 patients were enrolled, of whom 83 completed the 2-year follow-up, with a median follow-up of 2.9 years. Median age was 36.0 years (Q1, 30.0; Q3, 46.0), and most patients were female (83.1%). All patients had prior DMT exposure, with 41.0% having received ≥2 prior DMTs; the most common prior DMTs were interferon beta-1a (31.3%) and dimethyl fumarate (25.3%). Following cladribine initiation, mean ARR decreased from 0.8 at baseline to 0.1, and 79.5% of patients remained relapse-free at 2 years. Mean EDSS improved from 1.5 at baseline to 1.0, with 89.5% of patients demonstrating stable disability. Treatment completion at 2 years was 97.6%. Mean lymphocyte count decreased to 956.0 cells/μL and 843.6 cells/μL at 3 months after each annual treatment course and recovered from month 6 onward. TEAEs occurred in 30.1% of patients. The most common AEs were lymphopenia (22.9%), headache (4.8%), herpes zoster (3.6%), and numbness (3.6%).
Conclusion: In this prospective real-world registry in Taiwan, cladribine demonstrated sustained clinical effectiveness over 2 years, with reduced relapse activity, stable disability, high treatment completion, and a manageable safety profile consistent with its established safety profile.
Disclosures: The authors disclose no conflict of interest

P-115
Real-world evidence of the disease-modifying treatment optimization and rebound risk in multiple sclerosis.
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Background: The introduction of high-efficacy therapies (HETs) has substantially changed the treatment landscape of multiple sclerosis (MS), making no evidence of disease activity (NEDA) a key therapeutic goal. However, optimizing treatment efficacy while ensuring safety remains challenging, and evidence regarding treatment discontinuation and switching strategies is limited.
Objective: To evaluate the effectiveness of treatment strategies and investigate discontinuation and switching approaches for preventing rebound syndrome in patients with MS.
Methods: We retrospectively analyzed 200 patients with MS followed at the Department of Neurology, Tohoku University Hospital as of December 31, 2025. Disease activity was defined as the occurrence of clinical relapse, new asymptomatic T2/FLAIR hyperintense lesions on MRI, or progression independent of relapse activity (PIRA).
Results: Among 200 patients, 108 (54.0%) were recently diagnosed treatment-naive (RDTN) patients who initiated disease-modifying therapy within 3 years of disease onset (73 first-line therapies; 35 HETs), and 92 patients (46.0%) were categorized as late-diagnosed treatment-naïve (LDTN) group (55 first-line therapies; 37 HETs). The median survival time to disease activity was significantly longer in RDTN-HET group than in LDTN-HET group (163.0 vs. 70.0 months, $p<0.0001$). Overall, 198 treatment switches and 52 treatment discontinuations were recorded. The most common reasons for discontinuation were pregnancy (36.4%) and

patient-initiated discontinuation (15.4%). Rebound syndrome occurred in 7 patients (3.5%), including 6 following fingolimod discontinuation and 1 after switching from fingolimod to dimethyl fumarate. No patients experienced rebound syndrome following discontinuation of natalizumab.
Conclusion: The real-world data demonstrated that early initiation of HET in RDTN patients was associated with prolonged suppression of disease activity and may improve long-term NEDA-3 achievement. Sudden discontinuation of fingolimod should be avoided, particularly in patients planning pregnancy or at risk of treatment nonadherence.
Disclosures: There are no COIs among the authors.

P-116
Subcutaneous Ofatumumab Therapy for Relapsing MOGAD: Long-Term Follow-up of Two Patients
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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) relapses in more than 50% of adults. Although azathioprine, mycophenolate mofetil, and rituximab reportedly reduce relapse risk, no therapy has been approved for MOGAD in Japan.
Objective: We report the long-term clinical course of two adults with relapsing MOGAD refractory to oral immunosuppressants who were treated with subcutaneous ofatumumab.
Methods: We retrospectively reviewed the clinical courses, treatments, and outcomes of two adult patients with relapsing MOGAD treated with subcutaneous ofatumumab.
Results: Case 1: A 42-year-old, female patient experienced vomiting followed by right-sided hemiplegia. She was positive for anti-MOG antibodies and had longitudinally extensive lesions from the medulla oblongata to the thoracic cord. Despite treatment with prednisolone and tacrolimus, she experienced repeated relapses involving the brainstem and cervical cord. After initiation of subcutaneous ofatumumab, prednisolone and tacrolimus were tapered, and she remained relapse-free for three years until spinal cord relapse following COVID-19 infection. Case 2: A 32-year-old, female patient was admitted for aseptic meningitis followed by diplopia. She was positive for anti-MOG antibodies and had a right cerebellar lesion. Despite prednisolone and azathioprine therapy, she experienced relapses including left optic neuritis and right cerebellar peduncle involvement. After initiation of subcutaneous ofatumumab, she has remained relapse-free for one year and seven months.
Conclusion: Subcutaneous ofatumumab reduced relapse frequency in two adults with relapsing MOGAD refractory to oral immunosuppressants. However, careful follow-up is still required because the relapses were not completely prevented.
Disclosures: Honoraria: UCB Japan

P-117
Two-Year NEDA-3 and Relapse Control With Cladribine Tablets in Korea: A Nationwide Multicentre Real-World Study
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Background: Asian real-world evidence on cladribine tablets remains limited, particularly across the approved 2-year treatment course. To our knowledge, this is the first nationwide, multicentre, 2-year real-world study of cladribine tablets in Korea.

Objective: To evaluate treatment completion, 24-month multidomain disease control, outcomes after a Year 1 relapse, and safety in Korean patients with relapsing-remitting multiple sclerosis treated with cladribine tablets.

Methods: This prospective, non-interventional post-marketing surveillance study enrolled adults with relapsing-remitting multiple sclerosis treated with cladribine tablets at 14 Korean centres. The analysis population comprised 142 patients. Twenty-four-month effectiveness endpoints were assessed in 133 protocol completers using endpoint-specific evaluable denominators; treatment-course completion and the Year 1 relapse pathway were assessed in the full population, and safety in all 142 patients. Year 1 extended from first dose through Day 365 and Year 2 thereafter to protocol completion. NEDA-3 was a post-hoc complete-case endpoint defined as no relapse, no protocol-defined Expanded Disability Status Scale (EDSS) progression and no magnetic resonance imaging (MRI) activity. Safety analyses included adverse drug reactions (ADRs), serious ADRs, liver function test abnormalities classified as ADRs, minimum recorded absolute lymphocyte counts and available post-dose absolute neutrophil count data. Analyses were descriptive; missing effectiveness data were not imputed.

Results: Prior disease-modifying therapy was used by 136/142 (95.8%), and 6/142 (4.2%) were treatment-naive. Prior-year relapse data were available for 137 patients; 92 (67.2%) had relapsed. Both courses were completed by 125/142 (88.0%). At 24 months, 103/133 (77.4%) were relapse-free, 94/107 (87.9%) EDSS progression-free and 87/131 (66.4%) MRI activity-free. NEDA-3 was achieved by 49/72 (68.1%) in Year 1, 56/84 (66.7%) in Year 2 and 58/106 (54.7%) at 24 months. Among 24 patients relapsing in Year 1, 17 received the Year 2 course and 11/17 (64.7%) had no further relapse. Adverse drug reactions (ADRs) occurred in 34/142 (23.9%). Grade 3 lymphopenia occurred in 43/142 (30.3%); none had Grade 4. Among 37 patients with evaluable post-dose ANC data, four had Grade 3-range neutropenia and none had Grade 4. Liver function test abnormalities occurred in 2/142 patients (1.4%; 3 ADR events). Serious ADRs were COVID-19 and upper respiratory tract infection, one each; both resolved.

Conclusion: In this first nationwide, multicentre 2-year Korean real-world study, cladribine tablets showed sustained multidomain disease control in a predominantly treatment-experienced cohort: 54.7% achieved NEDA-3 and 88.0% completed both courses. A Year 1 relapse did not preclude subsequent relapse control; 64.7% of patients receiving the Year 2 course had no further relapse.
Disclosures: Beom-jun Seo is an employee of Merck Ltd., Korea, an affiliate of Merck KGaA, Darmstadt, Germany. Karim Taha is an employee of the healthcare business of Merck KGaA, Darmstadt, Germany. Disclosures for the remaining authors should be confirmed individually before submission.

P-118
From Biosimilarity to Accessibility: Real-World Rituximab Outcomes in the Northern Thailand MS and NMOSD Registry
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Background: Rituximab biosimilars may expand access to B-cell–depleting therapy in neuroimmunology, but concerns remain regarding whether lower-cost alternatives provide comparable real-world outcomes to reference rituximab. Evidence in multiple sclerosis (MS) and neuromyelitis optica spectrum disorder (NMOSD) is limited.
Objective: To evaluate real-world uptake of rituximab biosimilars in neurological practice and compare their effectiveness and safety with reference rituximab in patients with MS and NMOSD.
Methods: We conducted a retrospective study of rituximab use from January 1, 2023, to July 18, 2025. Unique patients were identified using hospital numbers. Patient-year was used to evaluate biosimilar utilization and reimbursement patterns, while prescription-level data were used to describe dosing. A comparative effectiveness analysis was restricted to patients with MS or NMOSD treated with rituximab biosimilars and a reference rituximab comparator cohort (n=40). Outcomes included annualized relapse rate (ARR), Expanded Disability Status Scale (EDSS) at 180 days, and hypogammaglobulinemia. Categorical variables were summarized as number and percentage and continuous variables as median (IQR), as appropriate. Fisher's exact test and nonparametric tests were used for between-group comparisons.
Results: Twenty-two biosimilar-treated patients contributed 38 patient-years and 49 prescribing entries. Biosimilar use increased over the study period, while product selection was strongly associated with reimbursement scheme ($P<0.001$), underscoring the major role of healthcare financing in determining access to rituximab therapy. Among patients with MS or NMOSD, clinical outcomes were comparable between biosimilar and reference rituximab. ARR was 0.5 versus 0.6 ($P=0.98$), and median 180-day EDSS was 2.0 (IQR 1.0–2.0) versus 2.5 (IQR 1.5–3.5), respectively ($P=0.78$). Overall tolerability was also similar, with no significant differences in hypogammaglobulinemia ($P=1.00$), infusion reactions, infections, neutropenia, or other recorded adverse reactions. These findings suggest that reimbursement policy may be a key determinant of biologic access despite comparable clinical performance.
Conclusion: Rituximab biosimilars demonstrated effectiveness and tolerability comparable to reference rituximab in patients with MS and NMOSD. Their use was strongly influenced by reimbursement scheme, highlighting healthcare financing as a major determinant of access to B-cell–depleting therapy and supporting biosimilars as a strategy to broaden equitable treatment access.

Disclosures: None.

POSTER SESSION - 7
Infection as Differential Diagnosis and Treatment-related Diseases

P-119
Simultaneous Disseminated Herpes Zoster and Partial Brown-Séquard Myelitis Following Adjuvant Chemotherapy in a Breast Cancer Patient
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Background: Varicella zoster virus (VZV) myelitis is a rare neurological complication of viral reactivation, typically preceded by a dermatomal rash by days to weeks. Chemotherapy-induced impairment of cell-mediated immunity is a recognised predisposing factor.
Objective: To report a case of VZV myelitis with simultaneous cutaneous and neurological onset, dermatome-cord dissociation, and a partial Brown-Séquard presentation, following adjuvant chemotherapy for breast cancer.
Methods: Retrospective review of clinical, radiological, and cerebrospinal fluid (CSF) findings.
Results: A 72-year-old woman with stage I, high-grade invasive ductal carcinoma completed four cycles of adjuvant docetaxel-cyclophosphamide chemotherapy. Two months later, she developed fever and a disseminated, non-dermatomal vesicular rash involving the face and trunk, with simultaneous right leg weakness (Medical Research Council grade III) and left-sided sensory loss below L1, consistent with partial Brown-Séquard syndrome. Sphincter function was preserved. Neutrophil count remained normal; CD4+ T-cell count was unavailable. Spine magnetic resonance imaging demonstrated a short-segment lesion at T10-11, discordant with the rash. CSF showed lymphocyte-predominant pleocytosis (420 cells/μL) with positive VZV polymerase chain reaction. She received intravenous acyclovir with pulse corticosteroids, and substantial neurological recovery occurred over two months with oral tapering steroid.
Conclusion: VZV myelitis can occur despite normal neutrophil counts, reflecting delayed recovery of cell-mediated immunity after chemotherapy. Cutaneous and neurological manifestations developed concurrently, and the rash did not correspond to the spinal cord lesion. VZV myelitis should be considered in patients with recent chemotherapy despite normal neutrophil counts.
Disclosures: No conflict of interest

P-120
Withdrawn

P-121
A Sharp Insular–Basal Ganglia Boundary as an MRI Clue to Herpes Simplex Encephalitis
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Background: Herpes simplex virus encephalitis requires rapid diagnosis and treatment. Brain MRI typically shows asymmetric temporal and insular involvement. The insular knife-cut sign, defined as a sharp boundary between insular abnormalities and the basal ganglia on FLAIR imaging, has been proposed as a highly specific imaging marker, but clinical reports remain limited.
Objective: To describe a patient with confirmed HSV-1 encephalitis showing the insular knife-cut sign and to highlight the potential diagnostic value of this characteristic MRI finding in patients with suspected viral encephalitis.
Methods: A previously healthy 24-year-old woman presented with fever, headache, recurrent loss of consciousness, altered mental status, and generalized tonic–clonic seizures. Cerebrospinal fluid analysis showed lymphocytic pleocytosis, and HSV-1 encephalitis was diagnosed. Intravenous acyclovir was initiated before transfer to our institution. On admission, she was febrile and drowsy but able to follow simple commands, with markedly reduced verbal output. Brain MRI demonstrated meningoencephalitic lesions involving the insular cortex and adjacent temporal regions. Axial FLAIR images were reviewed for the presence of a sharp demarcation between the insular lesion and basal ganglia. Electroencephalography and serial cerebrospinal fluid studies were performed. Because early neurological recovery remained limited despite prolonged acyclovir therapy, possible antiviral resistance was considered and treatment was escalated to foscarnet.
Results: Brain MRI showed a distinct sharp linear boundary between insular FLAIR hyperintensity and the basal ganglia along the external capsule, consistent with the insular knife-cut sign. Electroencephalography demonstrated diffuse background slowing compatible with encephalopathy. Serial cerebrospinal fluid analyses showed gradual improvement in inflammatory findings. Although neurological recovery was initially limited, consciousness and neurological function gradually improved after continued antiviral treatment, including escalation to foscarnet. Follow-up electroencephalography several months later demonstrated normalization of background activity. The clinical, cerebrospinal fluid, and imaging findings supported the diagnosis of HSV-1 encephalitis.
Conclusion: The insular knife-cut sign may provide a useful MRI clue for herpes simplex encephalitis by demonstrating a sharp boundary between insular abnormalities and the basal ganglia. Recognition of this pattern may support early diagnosis, particularly when initial laboratory findings are inconclusive. Larger studies are needed to determine its diagnostic performance and clinical significance.
Disclosures: None.

P-122
Cryptococcal Meningitis in Patients with Multiple Sclerosis Treated with Fingolimod: A Case Series and Literature Review
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Background: Fingolimod, a sphingosine-1-phosphate receptor modulator, is an effective oral disease-modifying therapy for relapsing-remitting. multiple sclerosis (RRMS). However, its immunosuppressive mechanism increases the risk of opportunistic infections, including cryptococcal meningitis (CM).
Objective: This study highlights the diagnostic challenges of fingolimod-associated CM through a case series and a comprehensive literature review.

Methods: We present a case series of three MS patients who developed CM during fingolimod therapy. We also conducted a systemic literature review by searching PubMed to analyse the demographics, clinical features, laboratory findings, and outcomes of all reported fingolimod-associated CM cases.
Results: All three patients in our series had received long-term fingolimod therapy (range: 2.75-10.9 years) and exhibited marked lymphopenia (absolute lymphocyte counts: 162-289/μL). Cerebrospinal fluid findings were variable, ranging from acellularity to pleocytosis (0-50 WBC/μL). Importantly, brain MRI findings may mimic acute demyelination with enhancing lesions, complicating timely diagnosis. Two patients presented with headache and markedly elevated intracranial pressure (ICP) (>40 cmH_2O) and suffered fatal outcomes. The third patient, presented with hearing loss and normal ICP, achieved full recovery following antifungal therapy. Our review of 24 cumulative cases revealed that headache (70.8%), confusion (50%), and limb weakness (45.8%) were the most common symptoms, whereas fever was infrequent (29.2%). The overall rate of mortality or persistent comatose was 20.8%.
Conclusion: The significant overlap in clinical and radiological manifestations between CM and MS relapse poses a major diagnostic challenge. Immediate lumbar puncture and cryptococcal antigen screening in fingolimod-treated patients with new headaches or neurological deficits before administering high-dose steroids is highly recommended.
Disclosures: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

P-123
Tetanus, Diphtheria and Acellular Pertussis (Tdap)-Associated Acute Transverse Myelitis in an Adolescent: A Case Report and Review of the Literature
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Background: Transverse myelitis (TM) following vaccination is uncommon, and reports associated with tetanus-containing vaccines are limited. We describe an adolescent who developed acute transverse myelitis shortly after tetanus, diphtheria and acellular pertussis (Tdap) vaccination and review previously reported cases.
Objective: To describe an adolescent who developed acute TM shortly after tetanus, diphtheria and acellular pertussis (Tdap) vaccination and review previously reported cases of vaccine-associated TM.
Methods: We describe the clinical presentation, investigations, treatment an adolescent with acute myelitis following Tdap vaccination. A focused review of published reports and vaccine-safety data on post-vaccination TM was also undertaken.
Results: A 13-year-old boy developed neck pain eight days after Tdap vaccination, followed by progressive right-sided weakness, urinary retention and right Horner syndrome. MRI Spine showed a non-enhancing intramedullary T2-hyperintense lesion at C2–C3. CSF, ANA and ANA profile were negative, serum MOG-IgG and AQP4-IgG were negative by cell-based assays. He improved after intravenous methylprednisolone followed by intravenous immunoglobulin. A 2009 review found 37 post-vaccination transverse myelitis cases, most often after hepatitis B(n=13), MMR/rubella(n=6), rabies(n=4).73% occurred within one month. In a Vaccine Safety Datalink study of approximately 64 million doses, only one of 16 Tdap-exposed cases occurred in 5-28 days interval. Proposed mechanisms include molecular mimicry, epitope spreading, bystander activation, adjuvant-mediated innate immunity and unmasking of susceptibility

Conclusion: Acute myelitis following Tdap vaccination is exceptionally rare. This case highlights the importance of prompt recognition, exclusion of alternative infectious and immune-mediated causes, and early immunotherapy, which may be associated with favourable neurological recovery.
Disclosures: No conflict of interest or disclosures by any of the authors.

P-124
Disentangling Pseudo-Neurological Deficits in Septic Oligoarthritis with Incidental Intracranial Cavernomatosis Mimicking Brain Abscesses
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Background: Managing complex systemic infections with pseudo-neurological presentations poses significant challenges. Severe joint inflammation can mimic motor deficits (pseudotetraparesis), while incidental intracranial lesions can create diagnostic bias towards central nervous system (CNS) abscesses.
Objective: To report a challenging case of septic oligoarthritis causing pseudotetraparesis, where incidental cerebral cavernomatosis mimicked CNS abscesses.
Methods: Case report.
Results: A 44-year-old male self-referred with rapid-onset tetraparesis, preceded by fever, arthralgia, and gastrointestinal symptoms. Examination showed weakness (upper 4/5, lower 1/5), hyperreflexia, and multiple joint tenderness with right knee oedema. Elevated CRP and procalcitonin were noted. Transverse myelitis was suspected; while awaiting spinal MRI, joint aspiration, antibiotics, and Methylprednisolone improved mobility. Synovial fluid confirmed septic/inflammatory oligoarthritis, and blood culture isolated S. pyogenes. Spinal MRI was normal, but persistent lower limb weakness, hyperreflexia, and urinary retention prompted a brain MRI, revealing multiple intra-axial lesions initially mimicking abscesses. Empirical antibiotics yielded no response. Subsequent MRI review (SWI/DWI) confirmed incidental cerebral cavernomatosis without restricted diffusion. Antibiotics were stopped, and therapy shifted to joint drainage, Methylprednisolone, and Sulfasalazine, leading to full recovery.
Conclusion: Severe joint pain in septic oligoarthritis can closely mimic neurological motor deficits. Differentiating incidental anomalies from active intracranial infection prevents inappropriate treatment and antibiotic overuse.
Disclosures: None.

P-125
Post Varicella Myelitis - A Diagnostic Dilemma: Case From Sri Lanka.
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Background: Varicella zoster virus (VZV) can cause an infective transverse myelitis. Varicella infection can trigger autoimmune inflammatory myelitis. It is diagnostically challenging to differentiate infective myelitis and immune mediated inflammatory myelitis. .
Objective: To describe clinical presentation , diagnostic workup , management and outcome of varicella myelitis.
Methods: Clinical features, investigations and treatment and outcome were recorded retrospectively from the clinical records.

Results: A 41-year-old Sri Lankan male with well controlled diabetes presented with acute onset bilateral lower limb weakness with sensory level of T2 and sphincter involvement. He had developed generalised vesicular rash consistent with primary varicella infection 5 days prior. MRI spine revealed longitudinally extensive transverse myelitis from T2 level to conus medullaris. Cerebro-spinal fluid (CSF) had mildly elevated protein(50mg/dl) with 13 lymphocytes . The CSF VZV PCR(Polymerase Chain Reaction) and serological testing for AQP4 and MOG antibodies were negative. Based on the temporal relationship with the rash, we made a diagnosis of varicella associated myelitis and treated the patient with intravenous acyclovir and intravenous methylprednisolone. The patient gradually improved over 3 weeks. At 3 month follow up , he had recovered his motor function with mild residual sphincter impairment.
Conclusion: VZV-associated acute transverse myelitis is a rare complication of varicella infection that can closely resemble immune-mediated inflammatory myelitis. A comprehensive evaluation for NMOSD and MOG-associated disease is important, as infections may act as triggers for immune-mediated neurological disease.
Disclosures: None.

P-126
Withdrawn

P-127
Two Cases of Neuromyelitis Optica Spectrum Disorder Presenting as Suspected Bacterial Meningomyelitis
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Background: Neuromyelitis optica spectrum disorder (NMOSD) is a rare inflammatory demyelinating disease of the central nervous system. While anti-aquaporin-4 (anti-AQP4) antibodies serve as a highly specific biomarker, antecedent infections and other factors are also thought to trigger its development or attack relapses.
Objective: Although cerebrospinal fluid (CSF) pleocytosis (> 50 cells/mm^3) is a recognized characteristic of NMOSD, distinguishing it from neurological infections remains challenging due to overlapping pleocytosis patterns.
Methods: Case 1: A 53-year-old female presented to the emergency department with lower extremity weakness and urinary retention onset upon waking, following cold-like symptoms and severe back pain 3 days prior. Neurological examination revealed paraparesis (MRC grade 2) and sensory loss to temperature, pain, and position below the T10 level. Laboratory tests showed mild elevations in ESR (17 mm/hr) and CRP (1.1 mg/dL). Spine T2-weighted MRI revealed longitudinally extensive transverse myelitis extending from the lower medulla to T12. Initial CSF analysis demonstrated severe neutrophilic pleocytosis (WBC 1,500/mm^3, 69% neutrophils), elevated protein (407 mg/dL), and a reduced CSF-to-blood glucose ratio of 0.38 (CSF glucose 43 mg/dL, blood glucose 114 mg/dL). Given the inability to rule out bacterial meningoencephalomyelitis empiric antibiotics and high-dose intravenous methylprednisolone (1 g/day for 5 days) were initiated simultaneously. Brain MRI the following day showed multiple non-enhancing T2 hyperintense nodules in the left periventricular white matter and splenium of the corpus callosum. Anti-AQP4 antibodies returned positive, confirming NMOSD. She showed gradual clinical improvement to MRC grade 4 following steroid, plasma exchange, and physical therapy.

Results: Case 2: A 56-year-old woman with anti-AQP4-positive NMOSD, diagnosed 5 months earlier after left optic neuritis, presented with acute paraparesis and sensory loss following fever, headache, and back pain. Examination showed paraparesis (MRC grade 2), a T10 sensory level, neck pain, and fever (38.0°C). Spine MRI revealed recurrent longitudinally extensive myelitis, and brain MRI showed left cerebellar hyperintensity with brainstem enhancement. CSF showed marked neutrophilic pleocytosis (1,650/mm³, 90% neutrophils), elevated protein (445 mg/dL), and a low CSF-to-blood glucose ratio (0.27). High-dose intravenous methylprednisolone and empirical antibiotics were started. Fever resolved rapidly, and repeat CSF on day 5 markedly improved (40/mm³, protein 59 mg/dL, glucose ratio 0.44). All bacterial cultures were negative, and antibiotics were discontinued after 14 days.
Conclusion: CSF pleocytosis (>50 cells/mm³) helps distinguish NMOSD from multiple sclerosis but not from CNS infections. Severe pleocytosis with high protein and low CSF glucose is rare in NMOSD relapses and may mimic bacterial meningoencephalitis. Initial treatment with high-dose corticosteroids plus broad-spectrum antibiotics is warranted until infection is excluded.
Disclosures: No

POSTER SESSION - 8
Symptom Management and Rehabilitation

P-128
Relapse-Associated and Relapse-Independent Disability Worsening in AQP4-IgG-Positive Neuromyelitis Optica Spectrum Disorder
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Background: Disability in aquaporin-4 immunoglobulin G (AQP4-IgG)-positive neuromyelitis optica spectrum disorder (NMOSD) is traditionally considered relapse-driven, though relapse-independent worsening is also reported. Varying definitions complicate accurate rate estimation.
Objective: To quantify relapse-associated worsening (RAW) and relapse-independent disability worsening (RIDW) in AQP4-IgG-positive NMOSD using standardized definitions, and to compare Expanded Disability Status Scale (EDSS)-defined RIDW with functional system (FS)-defined RIDW.
Methods: We analysed a retrospective single-centre cohort of 202 AQP4-IgG-positive patients (94% female) from 2015–2025. RIDW followed the standardised Müller framework with 12-month confirmation. Worsening confirmed within a relapse window was RAW; Worsening events not directly caused by NMOSD were excluded. Identical criteria were applied to four functional systems (visual, pyramidal, sensory, bowel/bladder).
Results: Over a median 7.5-year (IQR 3.3–10.4) follow-up, 108 patients experienced 263 worsening episodes. Only 28 patients (13.9%) met confirmed disability worsening (CDW): RAW in 21 (10.4%) and RIDW in 7 (3.5%). The remaining episodes (88%) were transient. RIDW patients had longer median disease duration (15 years) and higher baseline EDSS (6.5) than those with RAW (10 years; EDSS 3.5), transient worsening (13 years; EDSS 3.75), or no worsening (8 years; EDSS 3.0). FS-defined RIDW affected 56 patients (27.7%), with only

three meeting EDSS-defined RIDW. FS-only RIDW occurred at lower baseline EDSS (3.0) than EDSS-only (6.8). Five of seven EDSS-defined RIDW cases worsened on ambulation alone, with their functional systems at ceiling.
Conclusion: RIDW occurs in AQP4-IgG-positive NMOSD but is uncommon, whereas RAW is threefold more frequent; relapse prevention remains the principal therapeutic target. Most threshold-crossing EDSS worsening is transient, supporting CDW over single-visit EDSS change. EDSS and FS measures are complementary rather than interchangeable: the functional systems approach ceiling at high disability, where only ambulation still registers change, while the EDSS is insensitive to single-system worsening at low disability.
Disclosures: None.

P-129
Withdrawn

P-130
Recurrent Ophthalmoplegia with Bilateral Ptosis Due to MOG Antibody-Associated Midbrain Demyelination Mimicking Ocular Myasthenia Gravis: A Case Report
Ashok Kumar[1]
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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) is an inflammatory demyelinating disorder of the central nervous system with a broad spectrum of clinical manifestations. Isolated brainstem involvement presenting as recurrent ophthalmoplegia and bilateral ptosis is rare and may closely resemble ocular myasthenia gravis, leading to diagnostic uncertainty.
Objective: To highlight the rare presentation of MOGAD. as recurrent Ophthalmoplegia with Bilateral Ptosis associated Midbrain Demyelination Mimicking Ocular Myasthenia Gravis.
Methods: 40-year-old male presented with complete ptosis of the left eye and partial ptosis of the right eye, associated with binocular diplopia. He had experienced recurrent episodes of ptosis over the preceding three years, with near-complete spontaneous recovery between attacks. There was no history of limb weakness, bulbar symptoms, sensory deficits, or sphincter disturbances. Neurological examination revealed complete left-sided ptosis and partial right-sided ptosis. Extraocular movement examination demonstrated left lateral rectus weakness with bilateral restriction of upward gaze due to superior rectus involvement. Pupillary size and reactions were normal, and there was no evidence of fatigability or generalized muscle weakness. The recurrent ocular presentation initially suggested ocular myasthenia gravis. However, electrophysiological studies and myasthenia-specific antibody testing were non-contributory. Magnetic resonance imaging of the brain demonstrated a focal non- enhancing demyelinating lesion involving the dorsal midbrain in the region of the oculomotor nuclear complex. Serum myelin oligodendrocyte glycoprotein immunoglobulin G (MOG-IgG) tested positive on a cell-based assay, while aquaporin-4 antibodies were negative, establishing the diagnosis of MOG antibody-associated disease. The patient received intravenous methylprednisolone (1 g/day for five days), resulting in partial clinical improvement. Owing to persistent ophthalmoplegia and ptosis, intravenous immunoglobulin (IVIG) was administered, following which he achieved complete neurological recovery.
Results: This case illustrates an uncommon presentation of MOGAD with recurrent isolated ocular motor deficits due to selective midbrain demyelination. The relapsing course preserved pupillary function, and recurrent bilateral ptosis with ophthalmoplegia closely mimicked ocular

myasthenia gravis. Failure to demonstrate electrophysiological or serological evidence of myasthenia, together with characteristic MRI findings and MOG-IgG positivity, established the diagnosis. The incomplete response to corticosteroids and subsequent complete recovery following IVIG underscores the importance of early recognition and escalation of immunotherapy in steroid-refractory MOGAD.
Conclusion: Recurrent bilateral ptosis with ophthalmoplegia is an unusual manifestation of MOG antibody-associated disease and may be mistaken for ocular myasthenia gravis. MOGAD should be considered in patients with recurrent ocular motor deficits, particularly when investigations for myasthenia gravis are negative and neuroimaging reveals brainstem demyelination. Early diagnosis and prompt immunotherapy, including IVIG in selected patients, can result in excellent neurological recovery.
Disclosures: None.

P-131
Relapsing Myelin Oligodendrocyte Glycoprotein Antibody Associated Disease (MOGAD) with Brainstem Involvement: A Case Report
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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) is a demyelinating disease of the central nervous system mediated by antibodies against MOG and is currently recognised as other entities from multiple sclerosis and neuromyelitis optica spectrum disorder (NMOSD). The clinical manifestations of MOGAD varies, with optic neuritis being the most common presentation in adults.
Objective: To describe the clinical manifestation, diagnostic evaluation, and management of relapsing MOGAD presenting with brainstem syndrome following bilateral optic neuritis.
Methods: Case report.
Results: A 42-year-old woman admitted to the emergency room due to progressive impaired consciousness since four days before admission which preceded by headache, vertigo, left peripheral facial nerve palsy, and limb weakness. Neurological examination revealed impaired consciousness (GCS E3V4M5), left relative afferent pupillary defect (RAPD), left peripheral facial nerve palsy, and asymmetric tetraparesis. Brain MRI showed active demyelinating lesions in the left pons and left cerebellar peduncle. She had history of bilateral optic neuritis and positive anti-MOG antibody four months ago that responded to intravenous methylprednisolone pulse. Initial MRI showed bilateral optic nerve involvement without brain lesion. The patient received pulse-dose intravenous methylprednisolone followed by corticosteroid tapering and azathioprine for maintenance therapy, resulting improvement in consciousness, visual function and motor function. The patient was discharged with a clinical improvement.
Conclusion: This case highlights the heterogeneous clinical spectrum of relapsing MOGAD, in which bilateral optic neuritis can be followed by brainstem syndrome with impaired of consciousness during a relapse. Patients with relapsing MOGAD should undergo long-term immunosuppressive therapy following acute-phase management to reduce the risk of relapse and prevent from neurological disability.
Disclosures: No conflict of interest

P-132

A Pilot Exploratory Prospective Open-Label Study to Evaluate the Efficacy and Safety of Edaravone in Patients with Secondary Progressive Multiple Sclerosis

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Background: In secondary progressive multiple sclerosis (SPMS) therapeutic options are limited. Edaravone (EDV), a free- radical scavenger, approved for amyotrophic lateral sclerosis, might have beneficial effects in patients with SPMS.

Objective: To evaluate the safety, tolerability and efficacy of a short course of EDV added to baseline immunomodulatory therapy on patient-reported symptoms.

Methods: In this prospective, single-arm, open-label pilot study at a tertiary multiple sclerosis centre, adults with SPMS with Expanded Disability Status Scale (EDSS) 1.5–6.5, clinical stability for ≥6 months, and stable immunomodulatory therapy for ≥6 months received EDV 60 mg intravenously as an infusion over 1 hour in 100ml normal saline once daily for 5 consecutive days. Baseline and week-4 assessments included EDSS and Multiple Sclerosis Quality of Life (MSQoL) Inventory measures: Modified Fatigue Impact Scale (MFIS), Pain Effect Scale (PES), Bladder Control Scale (BLCS), Bowel Control Scale (BWCS), Impact of Visual Impairment Scale (IVIS), Perceived Deficits Questionnaire (PDQ), and Mental Health Inventory (MHI). Pre–post changes were analysed using Wilcoxon signed-rank test. Informed consent was taken from participants.

Results: Nine SPMS patients were enrolled for receiving EDV. Patients were receiving rituximab with a median of 70 months (11-94). None of them had clinical or radiological relapses. Mean age was 47.22±15.16 years, 7/9 were female, mean disease duration was 11.0±4.47 years and baseline EDSS was 3.5 (1.5-6). Post treatment 6/9 patients improved in fatigue (MFIS), bowel control (BWCS) and mental health (MHI). 3/5 who had baseline bladder issues reported improvement in BLCS. 2/4 patients with visual impairment reported improvement in vision. Cognitive function improved in 4/7 patients. However, 5/9 reported worsening in sensory symptoms and pain. One patient who did not have bladder symptoms at baseline developed bladder symptoms after receiving EDV.

Conclusion: EDV appears to have mixed effects in persons with MS, with improvements in fatigue, bowel symptoms, cognition, bladder symptoms, and visual symptoms, but worsening of sensory symptoms and pain. Future studies involving larger cohorts are needed to confirm these observations and to determine the potential usefulness of EDV in alleviating specific symptoms of MS.

Disclosures: The authors have no conflicts of interests to report.

POSTER SESSION - 9
Advances in Technology in Diagnosis and Care

P-133

Positive Predictive Value of Low versus Clear Positive Myelin Oligodendrocyte Glycoprotein Antibody Testing by Commercial Fixed Cell-Based Assay in Singaporean Adults and Children

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Refer to O-8 in Plenary Oral Presentation – 2

P-134

Integrative Machine Learning Analysis Identifies N7-Methylguanosine Regulator NCBP2 as a Diagnostic Biomarker in Multiple Sclerosis

Cui Tingting[1], Hu Shengfei[1], Huang Yiying[1], Zhao Yipeng[1], Qiu Wei[1]
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Background: Reliable peripheral blood biomarkers for the early detection and diagnosis of MS remain limited, highlighting the urgent need for novel, minimally invasive diagnostic indicators. Evidence indicates that N7-methylguanosine (m7G) RNA methylation contributes to tumor initiation and development through immune regulation. However, its role in autoimmune diseases such as MS remains largely unclear.
Objective: We aimed to investigate the global m7G methylation landscape in peripheral blood mononuclear cells (PBMCs) and to explore the diagnostic value of m7G-related regulatory genes in patients with MS.
Methods: Machine learning (LASSO, ElasticNet, RF, XGBoost, GBM, StepGLM) were used to identify diagnostic m7G regulators, with model performance evaluated by ROC and SHAP analysis. Immune cell infiltration was estimated by ssGSEA, and correlations with hub genes were assessed using Pearson analysis. Functional analysis of NCBP2 was performed using differential expression, GSEA, and GSVA based on Hallmark gene sets. WGCNA was conducted using CIS and MS samples to identify disease-associated co-expression modules, followed by GO/KEGG enrichment. PBMCs from MS patients and controls were used for RT-qPCR and RNA methylation ELISA. EAE was induced in C57BL/6 mice using MOG35–55 and pertussis toxin. Immunofluorescence was performed on spinal cord sections, and protein expression was quantified by confocal microscopy. Flow cytometry was used to assess NCBP2 expression in $CD45^+$ cells.
Results: Based on the identified hub genes, a diagnostic signature was developed, demonstrating strong discriminative performance with area under the receiver operating characteristic curve (AUC) values of 0.826 for MS and 0.884 for clinically isolated syndrome

(CIS). SHapley Additive exPlanations (SHAP) analysis was performed to quantify and rank the contribution of each selected gene to the diagnostic model. Notably, NCBP2, the most influential feature within the diagnostic model, exhibited significantly reduced expression in both MS patients and experimental autoimmune encephalomyelitis (EAE) mice.
Conclusion: In conclusion, this study systematically characterized m7G-related dysregulation in MS and identified NCBP2 as a key m7G-associated biomarker through integrated machine-learning analysis and experimental validation. Our findings implicate aberrant m7G regulation in MS pathogenesis and support NCBP2 as a potential target for early diagnosis and mechanistic studies.
Disclosures: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

P-135
HTRA1-Associated Cerebral Small Vessel Disease Masquerading as Multiple Sclerosis: A Two-Decade Diagnostic Challenge
Li-Hsuan Tseng[1], Chih-Hao Chen[1], Song-Chun Tang[1]
[1]*Department of Neurology, National Taiwan University Hospital*
Background: Despite advances in MRI-based diagnostic criteria, multiple sclerosis (MS) remains susceptible to misdiagnosis because inherited white matter disorders may mimic inflammatory demyelination. Recognition of atypical clinical and radiological features together with genetic testing is increasingly important for accurate diagnosis.
Objective: To report genetically confirmed HTRA1 autosomal dominant cerebral small vessel disease (HTRA1-AD-cSVD) initially diagnosed and treated as MS for over a decade.
Methods: A previously healthy 35-year-old man presented in September 2000 with acute left hemiparesis and hemisensory deficits. Brain MRI demonstrated multifocal T2-hyperintense white matter lesions, whereas CSF, evoked potentials, and other investigations were unrevealing. He fulfilled the 1983 Poser criteria for clinically definite MS at the time of a second relapse with new MRI lesions, and interferon β-1a was initiated following corticosteroid treatment. Despite recurrent dizziness and gait imbalance, he remained functionally independent for more than a decade under the therapy. Rapid deterioration developed in 2011 with cognitive decline, gait disturbance, urinary incontinence, and recurrent ischemic and hemorrhagic strokes. Extensive young-stroke work-up was unrevealing except for well-controlled hypertension, and disease-modifying therapy was escalated to fingolimod.
Results: Follow-up MRI demonstrated confluent external capsular and periventricular leukoencephalopathy with numerous deep cerebral microbleeds, raising suspicion of cerebral small vessel disease. Further history revealed a strong maternal history of early-onset stroke. No optic neuritis or myelitis occurred throughout the disease course. Initial NOTCH3 whole exonal sequencing was negative, whereas a next-generation sequencing panel for hereditary cerebral small vessel disease identified a pathogenic heterozygous HTRA1 c.359G>A (p.G120D) variant. His younger brother with recurrent early-onset strokes carried the identical mutation.
Conclusion: Hereditary cerebral small vessel disease should be considered in young-onset progressive leukoencephalopathy, particularly in patients with recurrent cryptogenic strokes, characteristic MRI features (e.g., lacunes and cerebral microbleeds), or a strong family history. Timely genetic testing may prevent prolonged misdiagnosis and inappropriate disease-modifying therapy.

Disclosures: The authors have nothing to disclose. The authors declare no conflicts of interest associated with this manuscript.

P-136

Raman Spectroscopy as a Non-Destructive Diagnostic Modality for Multiple Sclerosis

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Background: Multiple sclerosis (MS) is a major central nervous system demyelinating disease; however, unlike neuromyelitis optica spectrum disorder (NMOSD), it lacks reliable molecular biomarkers for diagnosis. Raman spectroscopy is a non-destructive analytical technique capable of detecting molecular-level differences, including variations in amino acid residues and chemical bond structures.

Objective: This study investigated whether Raman spectroscopy of cerebrospinal fluid (CSF) can contribute to differential diagnosis among MS, NMOSD, and healthy controls.

Methods: CSF samples were retrospectively collected from patients clinically diagnosed as MS or NMOSD who underwent lumbar puncture between April 2014 and April 2025. Control CSF samples were obtained from patients without neurological disease who received spinal anaesthesia for surgery at our hospital between July 2023 and March 2026. All samples were collected at Shimane University Hospital. Raman spectroscopy analysis was performed on CSF samples mounted on slides, and spectral data were acquired. Spectra were acquired using a confocal Raman microscope with a 532-nm excitation laser, and each spectrum was pre-processed for baseline correction and normalization. Principal component analysis (PCA) was applied to evaluate spectral differences between disease and control groups.

Results: Raman spectra were successfully obtained from 23 MS cases, 12 NMOSD cases, and 48 control cases. PCA demonstrated that group separation was mainly reflected in PC3 and PC5, which accounted for 5% and 3% of the total variance, respectively. Significant spectral differences between the combined MS/NMOSD group and the control group were observed at approximately 1016 cm^{-1}, 1154 cm^{-1}, 1381 cm^{-1}, and 1515 cm^{-1} ($p = 0.0008$). Additionally, PCA revealed that PC2 and PC4 captured disease-related spectral differences. Distinct spectral contributions were observed between the MS and NMOSD groups around 999, 1016, 1155, 1302, 1360 and 1514 cm^{-1}, indicating that these frequency components differentially characterize the two disorders.

Conclusion: Raman spectroscopy of CSF revealed distinct spectral signatures in MS compared with both control and NMOSD groups, suggesting its potential utility for differential diagnosis. These findings suggest that Raman spectroscopy may serve as a complementary molecular diagnostic tool, providing biochemical insights beyond conventional imaging and serological testing.

Disclosures: none

P-137
Withdrawn

P-138
Predicting Responsiveness to Pulsed Steroid Therapies in Anti-AQP4 Antibody-Positive Neuromyelitis Optica Spectrum Disorder
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Refer to O-9 in Plenary Oral Presentation – 2

P-139
Withdrawn

P-140
Withdrawn



Powerful Efficacy

有效降低 RRMS 疾病活性度，相較於 IFN β-1a，顯著降低年復發率新發現或增大的 T2 病灶數目和釓顯影劑強化病灶數目[1]

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【適應症及用途】　適用於成人復發緩解型多發性硬化症的治療。【首次使用前的評估】全血球計數、心臟評估、肝功能檢查、眼科評估、目前或過去的用藥、施打疫苗、活動性肺結核及肝炎相關檢查。【禁忌症】下列病人禁用ZEPOSIA：最近 6 個月內曾發生心肌梗塞、不穩定型心絞痛、中風、暫時性腦缺血 (TIA)、需住院治療的代償不全心臟衰竭或第 III/IV 級心臟衰竭；患有莫氏 (Mobitz) 第 II 型二級或三級房室 (AV) 傳導阻滯、竇房結病變症候群或竇房阻滯，除非病人已裝置心律調節器；患有嚴重且未治療的睡眠呼吸中止症；目前服用單胺氧化酶 (MAO) 抑制劑；已知免疫不全狀態，如免疫不全症候群，或有包括上呼吸道感染、肝臟轉胺酶升高、姿勢性低血壓、泌尿道感染、背痛和高血壓。【藥物交互作用】抗腫瘤、免疫調節或免疫抑制療法；抗心律不整藥物、QT　延長藥物、可減緩心跳速率的藥物；較高伺機性感染風險之病人；嚴重活動性感染、急性與慢性活動性感染，例如肝炎和肺結核。【警語及注意事項】感染；緩脈心律不整及房室傳導延遲；肝臟損傷；胎兒風險；血壓升高；呼吸的影響；黃斑部水腫；可逆性後腦病變症候群；先前免疫抑制或免疫調節藥物治療造成的非意圖免疫抑制加乘作用；停用 ZEPOSIA 後失能程度嚴重增加；停用 ZEPOSIA 後的免疫系統影響。【不良反應】最常見不良反應施打疫苗；強效 CYP2C8 抑制劑；乳癌抗藥蛋白 (BCRP) 抑制劑；強效 CYP2C8 誘導劑；單胺氧化酶 (MAO) 抑制劑；腎上腺素及血清素激性藥物；酪胺。【懷孕】關於懷孕女性使用 ZEPOSIA 的胎兒發育風險，目前沒有充分的資料。【哺乳】關於 ozanimod 是否會排入人類乳汁、對餵哺母乳嬰兒的影響、對母乳分泌的影響，目前尚無相關資料。應綜合考量哺餵母乳對嬰兒發育和健康的效益、母親對 ZEPOSIA 的臨床需求，以及 ZEPOSIA 或母親的身體狀況對嬰兒可能造成的不良作用。【具生育能力的女性和男性】在開始治療前，應提醒具生育能力的女性，藥物可能對胎兒造成嚴重風險，因此在接受治療期間必須避孕。由於在停藥後，藥物自體內排除需要一段時間，此期間對胎兒可能仍有風險，所以具生育能力的女性在停用後 3 個月內，必須繼續使用有效的避孕方法。【老年病人使用】ZEPOSIA 臨床試驗中納入的 65 歲以上受試者人數有限，不足以確認老年受試者的治療反應是否與較年輕的受試者不同。一般而言，老年病人較常有肝臟、腎臟或心臟功能低下，患有其他疾病或併用其他藥物療法的情況，因此為老年病人選擇劑量時應謹慎。【肝功能不全】肝功能不全對 ozanimod 主要代謝產物的藥物動力學影響未知。不建議肝功能不全的病人使用 ZEPOSIA。【儲存】儲存於25°C以下。
僅供醫護人員參考使用。使用本產品前，請詳閱最新仿單說明、警語及注意事項。

Reference：1. ZEPOSIA中文仿單USPI Sep 2020.

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INVITED LECTURES

PLENARY 1: Pathogens linked to MS and related disorders

L1. Update in pathogens for MS and related disorders

Prof Eleonora Cocco, MD
Full Professor of Neurology, University of Calgiari

Infectious pathogens, environmental exposures, and host genetic susceptibility interact dynamically to drive Multiple Sclerosis (MS) and related demyelinating disorders, including Neuromyelitis Optica Spectrum Disorder (NMOSD) and Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease (MOGAD). This lecture synthesizes the multi-pathogen landscape through a One Health framework, highlighting how gene-environment interactions and the gut microbiota-brain axis influence disease susceptibility, phenotypic diversity, and long-term Brain Health across populations.

Key viral mechanisms center on Epstein-Barr virus (EBV) driving molecular mimicry (EBNA1 cross-reactivity with GlialCAM and Myelin Basic Protein, MBP) and transactivating Human Endogenous Retroviruses (HERVs, specifically pHERV-W env) to engage Toll-like receptor 4 (TLR4) signaling, inducing chronic neuroinflammation and blocking remyelination. Concurrently, bacterial drivers and gut microbiome dysbiosis critically modulate host systemic and central immunity. Notably, Clostridium perfringens epsilon toxin (ETX) breaches the blood-brain barrier to trigger oligodendrocyte apoptosis, while zoonotic Mycobacterium avium subsp. paratuberculosis (MAP) promotes mucosal immune dysregulation and cross-reactive autoimmunity against MBP and IRF5.

Contrasting these pathogenic pathways across MS, NMOSD, and MOGAD highlights distinct pathophysiological signatures and barrier-disruption profiles. Translating these complex host-pathogen interactions into targeted therapeutics, including anti-HERV neutralizations, antivirals, anti-toxin strategies, and microbiome modulations, opens novel avenues for neuroprotection, disease prevention, and personalized therapeutic management.

L2: EBV and MS: A Perfect Storm of Genetics and Immunity

Adjunct Associate Professor Sasitorn Siritho (MD)
Senior Consultant Neurologist at Bumrungrad International Hospital, Bangkok, Thailand

Multiple sclerosis (MS) is increasingly understood as the result of a complex interaction between genetic susceptibility and environmental triggers, with Epstein–Barr virus (EBV) emerging as a critical component. Genetic studies have identified hundreds of MS susceptibility variants, with HLA-DRB1*15:01 (HLA-DR15) remaining the strongest individual risk factor. These variants predominantly influence immune pathways involving B and T cells, suggesting that genetic background shapes how the immune system responds to environmental challenges.

Accumulating epidemiological evidence strongly supports a temporal and causal relationship between EBV infection and MS. Longitudinal studies demonstrate that EBV seroconversion precedes MS onset by several years and is associated with a markedly increased risk of developing MS. Mechanistic studies further suggest that HLA-DR15 may alter antiviral immunity, resulting in vigorous but inefficient responses to EBV and persistent immune activation.

Several mechanisms may connect EBV infection to CNS autoimmunity, including molecular mimicry, aberrant antigen presentation, and EBV-driven reprogramming of B cells. EBV-specific immune responses may cross-react with CNS antigens such as myelin basic protein and GlialCAM, potentially initiating or amplifying neuroinflammation.

Together, these findings support a “perfect storm” model in which genetic susceptibility, EBV infection, and dysregulated immunity converge to initiate MS, providing important insights into prevention and future targeted therapeutic strategies.

L3: Translating the EBV–MS link into clinical innovation

Professor Rajiv Khanna
Co-Director of Queensland Immunology Research Centre

Epstein–Barr virus (EBV) is increasingly recognised as a critical contributor to the development of multiple sclerosis (MS). Large longitudinal studies demonstrate that EBV infection precedes MS onset, while infectious mononucleosis is associated with increased disease risk. These findings have shifted the field from establishing an association towards understanding how the EBV–MS link can be translated into prevention and treatment. Emerging evidence suggests that altered host immunity to EBV may contribute to MS pathogenesis. Recent studies have identified distinct changes in EBV-specific T-cell immunity in people with MS, including expansion of cytotoxic $CD8^+$ T-cell responses against EBV latency-associated antigens, altered T-cell receptor repertoires, and transcriptional programs associated with immune activation. Integration of these

immune signatures with MS genetic susceptibility further highlights the intersection between antiviral immunity and disease pathogenesis. These insights create opportunities for clinical innovation. Prophylactic EBV vaccination could potentially reduce MS risk by preventing primary infection or infectious mononucleosis, while therapeutic vaccination, EBV-specific T-cell therapies and antibody-based approaches offer strategies for targeting established infection or dysregulated antiviral immunity. EBV-specific immune signatures may additionally provide biomarkers for patient stratification and therapeutic monitoring, creating a pathway from mechanistic discovery to prevention and precision treatment of MS.

PLENARY 2: Current clinical trials in MS and related disorders

L4. BTK inhibitors in multiple sclerosis

Kuo-Hsuan Chang, MD, PhD
Professor, School of Medicine, Chang Gung University

Current disease-modifying therapies for multiple sclerosis (MS) effectively suppress peripheral relapses but have limited effects on compartmentalized central nervous system (CNS) inflammation, which is driven by activated microglia and CNS-resident B cells and implicated in progression independent of relapse activity (PIRA). This unmet need has prompted the development of Bruton's tyrosine kinase (BTK) inhibitors, a new class of oral, CNS-penetrant agents that target immune mechanisms on both sides of the blood-brain barrier. By modulating B-cell receptor signaling and pro-inflammatory microglial pathways without inducing systemic lymphodepletion, BTK inhibitors may suppress peripheral immune activity while targeting CNS-compartmentalized inflammation and preserving baseline humoral immunity. Clinical trial results have demonstrated efficacy across different MS phenotypes, although outcomes have varied among individual agents. In relapsing MS, evobrutinib and tolebrutinib did not outperform teriflunomide in reducing relapse activity, whereas fenebrutinib and remibrutinib significantly reduced annualized relapse rates compared with teriflunomide. On the other hand, tolebrutinib significantly reduced disability worsening in non-relapsing secondary progressive MS, while fenebrutinib demonstrated non-inferiority to ocrelizumab in primary progressive MS These findings suggest that BTK inhibitors may extend MS treatment beyond peripheral relapse control toward dual-compartment immunomodulation, with potential effects on CNS inflammatory mechanisms associated with disability progression.

L5. Where we are in clinical trials?; future direction for clinical trial structures

Professor Simon Broadley
Professor of Neurology, School of Medicine, Griffith University

Clinical trials have drastically changed the outlook for people with MS globally and have provided key insights into the underlying pathogenesis of the disease. The greatest challenges now are to deliver effective treatments for the progressive stage of MS in a timely manner to benefit those who had reached this stage prior to the availability of high efficacy therapies. Pivotal to this aim are three main tenets. The first is the repurposing of therapies that are already approved for other indications, thereby removing many of the barriers that exist in getting new drugs to market. The second is the utilisation of novel trial designs such as adaptive clinical trials. These can include multiple arms or multiple stages to optimise control arm information and reduce time in progressing through successive trial phases. The third is to design robust clinical trials with proven outcome measures and sufficient quality assurance processes to be able to meet regulatory approval requirements. It is hoped that through the a combination of these approaches, new effective therapies for progressive MS will become available sooner than might previously have been possible and that these principals can be applied to other niche groups.

L6. Current and Future treatment strategies for MOG antibody-associated disease (MOGAD)

Dr Michael Levy
Associate Professor of Neurology, Harvard Medical School

This talk will review the evolving treatment landscape for myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD), with emphasis on both current clinical practice and emerging trial data. Acute attacks are typically treated with high-dose corticosteroids, often with plasma exchange or intravenous immunoglobulin (IVIG) for severe or steroid-refractory events. For relapse prevention, treatment remains individualized based on attack severity, relapse history, age, comorbidities, and treatment tolerance. IVIG has become an important maintenance option, supported by observational studies showing reductions in relapse frequency, particularly when administered at adequate dose and frequency. Other commonly used steroid-sparing therapies include mycophenolate mofetil and IL-6 pathway inhibition.

The presentation will also discuss the results of the Phase III METEOROID trial of satralizumab, the first positive randomized controlled trial in MOGAD. Satralizumab, an IL-6 receptor inhibitor, significantly reduced relapse risk compared with placebo and provides prospective evidence supporting targeted cytokine therapy in this disease. These findings represent an important step toward an evidence-based treatment framework for MOGAD. The talk will integrate trial results with real-world treatment strategies and highlight practical considerations in selecting and sequencing maintenance therapies. This talk will review the evolving treatment landscape for myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD), with emphasis on both current clinical practice and emerging trial data. Acute attacks are typically treated with high-

dose corticosteroids, often with plasma exchange or intravenous immunoglobulin (IVIG) for severe or steroid-refractory events. For relapse prevention, treatment remains individualized based on attack severity, relapse history, age, comorbidities, and treatment tolerance. IVIG has become an important maintenance option, supported by observational studies showing reductions in relapse frequency, particularly when administered at adequate dose and frequency. Other commonly used steroid-sparing therapies include mycophenolate mofetil and IL-6 pathway inhibition.

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PLENARY 3: Clinical Diversity as Evidence: Case Series Across Regions and Therapeutic Landscapes

L7. Tumefactive Disease in the Elderly

Dr Narendra Pulukuri
Consultant Neurologist – Neuroimmunology, AIG Hospitals, Hyderabad, India

Tumefactive demyelinating lesions are large, mass-like inflammatory lesions that can closely mimic glioma, primary CNS lymphoma, metastasis, infection, and stroke. Although classically described in younger adults, their occurrence in the elderly presents a particular diagnostic challenge, as neoplasia becomes an increasingly important competing diagnosis with advancing age and may lead to diagnostic delay.

Imaging remains central to the diagnostic approach. Features such as incomplete open-ring enhancement, relatively limited mass effect or oedema, multifocal white-matter involvement, and interval response to immunotherapy may favour an inflammatory demyelinating process. However, no single imaging feature is diagnostic, and careful clinicoradiological correlation and longitudinal assessment remain essential.

We present two elderly women with tumefactive brain lesions illustrating contrasting diagnostic trajectories. The first presented with subacute encephalopathy and hemiparesis and had a large temporoparietal open-ring enhancing lesion. She showed striking clinical and radiological recovery following immunotherapy. The second presented with progressive cognitive and

behavioural decline and had multifocal enhancing lesions involving the corpus callosum and cerebellum. Her response to immunotherapy was incomplete, and primary CNS lymphoma remained an important competing consideration.

These cases highlight the diagnostic complexity of tumefactive lesions in older adults and the importance of integrating clinical presentation, imaging characteristics, serological findings, treatment response, and longitudinal evolution. They also illustrate that an apparently convincing inflammatory diagnosis may require continued reassessment when the clinical and radiological course is atypical.

L8. Visual worsening without relapse in NMOSD

Young Nam Kwon, M.D., Ph.D.
Clinical Associate Professor, Department of Neurology, Kangbuk Samsung Hospital, Seoul, Korea

A 34-year-old woman developed acute left optic neuritis three months after her first delivery in 2019. She was diagnosed with AQP4-IgG-positive NMOSD and initially treated with mycophenolate mofetil (MMF). In 2021, MMF was switched to rituximab before the planned pregnancy.

Following her second delivery in May 2022, she reported progressive bilateral visual deterioration beginning within one month postpartum. Follow-up orbit MRI performed in June 2022 revealed no recurrent optic nerve enhancement, and neuro-ophthalmologic evaluation did not support clinical relapse. MMF was restarted in October 2022. Despite the absence of relapse, her subjective visual symptoms gradually progressed over the following three years.

By April 2025, VA had declined from 1.0/1.0 to 0.7/0.9. Serial OCT demonstrated progressive bilateral retinal nerve fiber layer (RNFL) thinning (OD: 97→91 μm; OS: 83→78 μm), accompanied by ganglion cell-inner plexiform layer (GCIPL) thinning in the clinically unaffected right eye (76→74 μm) over a 65-months follow-up. Humphrey visual field remained largely stable (MD: +2.11→+0.48 OD; +1.52→+0.56 OS; VFI 99–100% throughout).

This case highlights a discrepancy between persistent subjective visual deterioration and the absence of conventional relapse activity in AQP4-IgG-positive NMOSD. Progressive structural retinal changes despite clinical stability raise the possibility of relapse-independent neuroaxonal injury and underscore the importance of longitudinal multimodal monitoring, including OCT, even in patients without apparent relapses.

L9. Fulminant double seronegative NMOSD

Kyoka Fujii, M.D.
Staff Neurologist, Department of Neurology, Kobe University Hospital

A 39-year-old woman had been diagnosed with left idiopathic optic neuritis 5 years earlier and treated with corticosteroids. Six months after delivering her first child, she was admitted to our department because of acute left-sided sensory disturbance causing inability to walk. MRI revealed gadolinium-enhancing T2-hyperintense lesions at C2–5 and Th9–10. Anti-AQP4 and anti-MOG antibodies were negative in both serum and cerebrospinal fluid. She was diagnosed with multiple sclerosis and treated with intravenous methylprednisolone and plasma exchange, leading to clinical improvement and discharge with independent ambulation. However, on the day of discharge, she developed abnormal sensation in the left face and bilateral lower limb weakness and was readmitted. MRI showed a new lesion in the right thalamus. She subsequently developed tetraplegia and impaired consciousness, with an increasing number of intracranial lesions. Repeated cerebrospinal fluid cytology and whole-body PET-MRI were negative. Considering recurrent inflammatory attacks, intravenous methylprednisolone, plasma exchange, and intravenous immunoglobulin were administered; however, the lesions continued to increase. After concomitant oral corticosteroid therapy, her symptoms gradually improved. Ofatumumab was introduced, and she was transferred with an EDSS score of 9.0. This case suggests that a fulminant MS phenotype may exist, potentially including double-seronegative NMOSD.

L10. Pediatric-Onset Multiple Sclerosis in the Philippines

Jon Stewart Hao Dy, MD, FPNA
Consultant Neurologist and Deputy Training Officer, Section of Neurology, Chinese General Hospital and Medical Center

Pediatric-onset multiple sclerosis (POMS) is uncommon and presents unique diagnostic and therapeutic challenges, particularly in resource-variable healthcare settings. This lecture presents the longitudinal course of a Filipino child who developed recurrent focal neurologic symptoms at nine years of age, with magnetic resonance imaging demonstrating multifocal inflammatory demyelinating lesions consistent with relapsing multiple sclerosis. Following recognition of active disease, early high-efficacy therapy with rituximab was initiated in February 2022. The patient has subsequently demonstrated sustained clinical remission over approximately four years, with preserved neurologic function, independence in activities of daily living, and continued participation in age-appropriate school and social activities. Serial neuroimaging provides an opportunity to examine the radiologic evolution of disease following treatment. The case highlights the importance of recognizing pediatric multiple sclerosis, considering early high-efficacy treatment in children with active disease, and maintaining longitudinal clinical and radiologic surveillance. It also illustrates how contemporary neuroimmunology care can be implemented within the Philippine healthcare setting.

PLENARY 4: Access to health care, promoting brain health, and community and political engagement

L11. Personalised Medicine: the importance of community engagement in Neuroimmunology

Associate Professor Anne Bruestle
Associate Professor, The John Curtin School of Medical Research (JCSMR), Australian National University

Meaningful engagement with people with MS has become an important part of how we develop our research. Through Our Health in Our Hands (OHIOH), a transdisciplinary program bringing together clinicians, researchers and people with lived experience, we worked directly with people with MS not only to understand their priorities and ensure our research addresses questions and outcomes that matter to them, but to make them partners in our research. This engagement contributed to the development of the MS Toolkit, which provides a structured approach to co-design.

A key example is our work on fatigue, one of the most common and challenging symptoms of MS. Through workshops and interviews, people with MS helped us develop the ANU MS Fatigue Scales and Fatigue App. Their input shifted our approach from asking people to retrospectively summarise their fatigue to capturing how they feel “right now” across physical, cognitive, emotional and social domains.

In this presentation, I will share lessons from these projects, how participant engagement shaped our research, the obstacles we encountered, and the benefits of working in partnership with people with MS.

L12. Global Perspectives on MS: Access to Care and Treatment

Associate Professor Deanna R. Saylor, MD, MHS
Associate Professor with Tenure, Department of Neurology, University of North Carolina School of Medicine

This lecture will review what is known about the global epidemiology of multiple sclerosis (MS), particularly in low- and middle-income countries, with a focus on the important limitations of currently available data. Emerging studies from sub-Saharan Africa suggesting substantial underdiagnosis of MS in the region will be reviewed, alongside initiatives from CTRIMS partners and multilateral organizations, including the World Health Organization (WHO) and Multiple Sclerosis International Federation (MSIF), aimed at improving access to timely and accurate diagnosis. The lecture will then examine persistent global disparities in access to MS disease-modifying therapies (DMTs), highlighting MSIF’s successful effort to have MS DMTs added to the WHO Model List of Essential Medicines and the implications of this important milestone.

Finally, ongoing and future opportunities to improve equitable access to MS diagnosis, treatment, and care globally will be discussed.

L13. Current Status of Neuroimmunological Disease Care in Japan

Ichiro Nakashima, M.D., Ph.D.
Professor of Neurology, Tohoku Medical and Pharmaceutical University
Japan's universal health insurance system is complemented by the "Nanbyo" framework, which provides medical cost subsidies for patients with designated intractable diseases. Although this system facilitates access to high-cost treatments for multiple sclerosis and neuromyelitis optica spectrum disorder, important gaps remain for newly recognized neuroimmunological diseases.

Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) affects an estimated 1,700 patients in Japan. Approximately half have a monophasic course, whereas some experience recurrent attacks with severe neurological sequelae. Accurate diagnosis requires MOG antibody testing; however, this essential test is not currently reimbursed by national health insurance. Moreover, MOGAD has not yet been designated as an intractable disease, raising concerns about future access to emerging high-cost therapies. Similar challenges affect autoimmune encephalitis, in which timely antibody testing is critical for diagnosis and early immunotherapy.

We are working with the Ministry of Health, Labour and Welfare toward designation of MOGAD as a "Nanbyo," regulatory approval of standardized MOG antibody assays, and insurance reimbursement for testing. Closing these gaps is essential to translate advances in neuroimmunology into equitable clinical care in Japan.

PLENARY 5: Monitoring and measurement of MS progression and others

L14. Disease progression and aging in MS

Professor Jeannette Lechner-Scott
Senior Staff Specialist Department Neurology, John Hunter Hospital

Chronological age is one of the strongest predictors of disability accumulation in multiple sclerosis (MS), yet age alone does not adequately explain the substantial heterogeneity in disease trajectories. Progression reflects the interaction between cumulative inflammatory injury, neuroaxonal loss, impaired remyelination and repair, mitochondrial dysfunction, immunosenescence, and declining brain and cognitive reserve. With increasing age, the biological processes underlying progression may become increasingly dissociated from focal inflammatory disease activity.

This has stimulated interest in biomarkers of biological ageing and vulnerability to progression. Epigenetic clocks derived from DNA methylation profiles provide molecular estimates of biological age. Epigenetic age acceleration has been described in pwMS. Brain-age modelling

provides an imaging-derived estimate of biological brain age, with the difference between predicted brain age and chronological age. Similarly, a significant brain-age gap has been identified for pwMS.

Integrating these measures with clinical, cognitive, MRI and fluid biomarkers may improve our ability to identify individuals at increased risk of progression and cognitive decline. Ultimately, understanding biological ageing may provide a framework for moving beyond chronological age towards biologically informed, personalised approaches to MS prognosis and treatment.

L15. Biomarker Monitoring in NMOSD and MOGAD

Associate Professor Jae-Won Hyun M.D., Ph.D.
Neurologist, Associate Professor, National Cancer Center, Korea

Monitoring in neuromyelitis optica spectrum disorder (NMOSD) and myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) may require approaches distinct from those used in multiple sclerosis (MS). This talk will review evidence on disability accumulation and clinical progression independent of relapse activity in NMOSD and MOGAD. It will discuss the potential roles and limitations of biomarkers including serum glial fibrillary acidic protein and neurofilament light, magnetic resonance imaging (MRI), and optical coherence tomography (OCT) in monitoring disease activity and tissue injury. Particular attention will be given to the challenges of distinguishing the prolonged effects of previous attacks from attack-independent injury and to the uncertain relationship between biomarker changes and sustained clinical worsening. The lecture will consider whether available evidence supports routine surveillance for silent progression and how this evidence may inform disease-specific monitoring strategies.

L16. Monitoring and Management of Pregnancy in MS and NMOSD

Professor Yuko Shimizu M.D., Ph.D.
Professor for Department of Neurology and Department of Medical Safety,Tokyo Women's Medical University (TWMU)

Monitoring in neuromyelitis optica spectrum disorder (NMOSD) and myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) may require approaches distinct from those used in multiple sclerosis (MS). This talk will review evidence on disability accumulation and clinical progression independent of relapse activity in NMOSD and MOGAD. It will discuss the potential roles and limitations of biomarkers including serum glial fibrillary acidic protein and neurofilament light, magnetic resonance imaging (MRI), and optical coherence tomography (OCT) in monitoring disease activity and tissue injury. Particular attention will be given to the challenges of distinguishing the prolonged effects of previous attacks from attack-independent injury and to the uncertain relationship between biomarker changes and sustained clinical worsening. The lecture will consider whether available evidence supports routine surveillance for silent progression and how this evidence may inform disease-specific monitoring strategies.



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Thursday, 19 November 2026

B cells in NMOSD: From Pathogenesis to Clinical Trials and Real-World Practice

Koji Shinoda, M.D., Ph.D
Assistant Professor, Department of Neurology, Kyushu University Hospital, Fukuoka, Japan

Neuromyelitis optica spectrum disorder (NMOSD) is a rare autoimmune disorder of the central nervous system characterized by acute severe inflammatory attacks affecting optic nerves, spinal cord, brainstem, and cerebellum. In most cases of NMOSD, anti-aquaporin-4 immunoglobulin G (AQP4-IgG) can be detected in peripheral blood and plays a pathogenic role by binding to AQP4 on astrocytes, activating the complement pathway, and leading to severe astrocytopathy, demyelination, and neural loss. B cells contribute to the pathogenesis of NMOSD through autoantibody production, antigen presentation, and pro-inflammatory cytokine production, providing a robust rationale for B-cell-targeted therapies. Inebilizumab, an anti-CD19 monoclonal antibody, depletes a broad range of B-cell lineage cells, including plasmablasts, which are less efficiently removed by anti-CD20 antibodies. This presentation will review current approaches to the diagnosis and treatment of AQP4-IgG-positive NMOSD, with particular emphasis on the immunological roles of B cells and the rationale for anti-CD19 treatment. We will summarize the efficacy and safety data from the pivotal N-MOmentum trial and its long-term follow-up, including sustained relapse prevention and consideration for long-term treatment. We will also review updated real-world data from our institute involving 163 patients with AQP4-IgG-positive NMOSD, focused on transitions from conventional oral glucocorticoids/immunosuppressant therapies to biologics, switching between biologic agents, and breakthrough relapses during biologic treatment. Finally, we will discuss the positioning of inebilizumab in individualized long-term management of NMOSD and future challenges in optimizing treatment selection, sequencing, and safety monitoring.

Alexion, AstraZeneca Rare Disease
Friday, 20 November 2026

Complement Component 5 Inhibitor Therapies in NMOSD: Clinical Insights, Real-World Evidence, and Considerations for Family Planning

Prof. Jin Nakahara[1], Prof. Tianrong Yeo[2], Prof. Elias Sotirchos[3]
[1]*Keio University Hospital, Tokyo, Japan*
[2]*National Neuroscience Institute, Novena, Singapore*
[3]*Johns Hopkins University School of Medicine, Baltimore, United States*

Anti-aquaporin-4 antibody-positive (AQP4-Ab+) NMOSD is a potentially life-threatening, rare, chronic, autoimmune disease of the central nervous system characterised by repeated, unpredictable relapses, leading to the accumulation of irreversible neurological disability. Due to the severity of the disease, starting effective treatments early is critical for patients. The C5ITs eculizumab and ravulizumab are approved for the treatment of adults with AQP4-Ab+ NMOSD. These C5ITs have demonstrated long-term clinical benefits in the reduction of risk

of relapses. This symposium will focus on the role of the complement system in AQP4-Ab+ NMOSD pathogenesis and present clinical trial and real-world evidence on the use of eculizumab and ravulizumab for the prevention of relapses in adult patients with AQP4-Ab+ NMOSD. Attendees will gain insights into the burden of unmet needs experienced by patients with AQP4-Ab+ NMOSD and the therapeutic benefits of targeting complement component 5 to prevent relapses. Efficacy and safety highlights from real-world evidence with ravulizumab and eculizumab along with the final results from the CHAMPION-NMOSD long-term extension evaluating ravulizumab in adults with AQP4-Ab+ NMOSD will be discussed. The latest real-world data from the NMO SPOTLIGHT registry and Japan PMS will be presented as well as special considerations for family planning for patients with this disease. Through expert presentations, patient cases, and a panel discussion, attendees will better understand how to integrate C5ITs into clinical practice for optimal patient outcomes.

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Chugai Pharmaceutical Co., Ltd
Friday, 20 November 2026

NMOSD and MS: Current Updates in Science and Clinical Practice

Yoshiki Takai, M.D., Ph.D
Department of Pathology, Tohoku University Hospital
Department of Neurology, Tohoku University Graduate School of Medicine

Neuromyelitis optica spectrum disorder (NMOSD) is an autoimmune astrocytopathy characterized by astrocyte injury and subsequent incomplete regeneration. Interleukin-6 (IL-6) plays a critical role in NMOSD pathogenesis, contributing to both peripheral immune responses and central nervous system inflammation. Neuropathological analyses reveal prominent IL-6 deposition in perivascular regions of acute NMOSD lesions, even before astrocyte destruction, suggesting its involvement in blood–brain barrier disruption and early lesion development. IL-6 deposition is also observed in chronic lesions, potentially contributing to persistent inflammation. These findings suggest that IL-6 may participate in NMOSD pathology throughout different disease stages, providing a neuropathological rationale for IL-6 receptor-targeted therapy.

Koji Shinoda, M.D., Ph.D
Assistant Professor, Department of Neurology, Kyushu University Hospital, Fukuoka, Japan

Interleukin-6 (IL-6) plays a central role in the immunopathogenesis of aquaporin-4 antibody-positive neuromyelitis optica spectrum disorders (NMOSD). IL-6 promotes the plasmablast differentiation and survival, enhances Th17 cell differentiation, and contributes to the blood-brain-barrier dysfunction. This presentation will review the immunological mechanisms underlying NMOSD, with a focus on IL-6 signaling and its therapeutic implications. Clinical trial findings and accumulating real-world data on IL-6 blockade will be discussed, including treatment efficacy, safety, and long-term management. We will also present our latest real-world data from 163 cases with NMOSD, focusing on transitions between maintenance therapies and breakthrough relapses. These findings will be discussed in the context of optimizing individual treatment strategies for NMOSD.

Ho Jin Kim, MD., Ph.D
Professor of Neurology at the National Cancer Center and of Cancer Biomedical Science at the National Cancer Center Graduate School of Cancer Science and Policy, South Korea.

Despite advances in multiple sclerosis (MS) treatment, unmet needs remain for high-efficacy therapies that address the complex and concurrent disease mechanisms operating in both the periphery and central nervous system (CNS). This symposium will explore the scientific rationale for Bruton's tyrosine kinase (BTK) inhibition as a potential therapeutic approach to address these challenges. Drawing on emerging clinical and biomarker evidence, the session will examine the potential role of BTK inhibition across the MS disease continuum, with a focus on its underlying mechanisms of action and evolving clinical evidence.