

intravenously every two weeks, and an open label extension phase of variable duration. The primary outcome is the average change in MG-ADL score from baseline to weeks 22, 23 and 24 of the double-blind placebo-controlled phase.

**Results** Study enrollment began in July 2021 and is ongoing.

**Conclusions** The ongoing Vivacity MG Phase 3 study will assess the efficacy, safety, and PK/PD of Nipocalimab in adult gMG.

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### PERINEURAL SPREAD OF SQUAMOUS CELL CARCINOMA (SCC) CAUSING VISION LOSS- A DELAYED COMPLICATION

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A 66-year-old gentleman presented with gradual onset, painful, right eye visual loss with right maxillary paraesthesia on a background of previous Basal Cell Carcinoma (BCC) excision and mild cognitive impairment.

Neurological examination demonstrated binocular diplopia with metamorphopsia, and right eye proptosis associated with numbness in the first two divisions of the right Vth cranial nerve. Visual fields assessment was difficult due to cognitive impairment.

Investigations demonstrated non-specific mild bilateral optic atrophy on Ocular Computed Tomography (OCT). MRI brain showed abnormal enhancement of right infraorbital nerve and right optic nerve with involvement of the ophthalmic and maxillary division of the trigeminal nerve which was highly suspicious for perineural invasion (PNI) of tumour. A right infraorbital nerve biopsy confirmed intra and perineural spread of a moderately differentiated keratinising squamous cell carcinoma (SCC). The patient was managed with palliative radiotherapy and succumbed to his illness eventually.

**Discussion** Perineural invasion can occur in cutaneous SCCs when associated with other poor prognostic features including head and neck location and poor histologic differentiation on biopsy<sup>1</sup>. Since majority of patients present without symptoms of neural involvement, physicians must be vigilant in the search for this type of tumor spread.

**Conclusion** PNI of SCC of the head and neck has been associated with poor prognosis.<sup>1</sup> Patients may initially be asymptomatic and cranial nerve deficits become apparent only at an advanced stage of cancer spread.<sup>2</sup> Early detection of PNI could help in treatment planning with curative intent.

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### A CASE OF GLIAL FIBRILLARY ACIDIC PROTEIN (GFAP) ASTROCYTOPATHY AFTER NOVAVAX COVID-19 VACCINATION

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**Introduction** Autoimmune glial fibrillary acidic protein (GFAP) astrocytopathy was first defined in 2016.<sup>1</sup> It usually presents as meningoencephalomyelitis associated with IgG binding to GFAP. The literature suggests an association with neoplasms and possibly viral infections.<sup>1</sup> Few case reports<sup>2, 3</sup> have shown GFAP astrocytopathy after COVID-19 infection, and one case report<sup>4</sup> with the Moderna COVID-19 vaccination (mRNA-1273). We describe another GFAP astrocytopathy presenting as meningoencephalitis after the Novavax COVID-19 vaccination (NVX-CoV2373).

**Case** We describe a man in his 50s, previously well, with subacute meningoencephalitis. He presented initially with progressive worsening migrainous headache associated with anorexia, nausea, night sweats and malaise. Several days later, he developed cauda equina syndrome, unremitting hiccups, encephalopathy and multiple cranial neuropathies. The symptoms were preceded by his 3<sup>rd</sup> COVID-19 vaccination booster, Novavax COVID-19 vaccination (NVX-CoV2373), one week prior. Neuroimaging revealed diffuse leptomeningeal and perivascular enhancement involving the brain stem, spinal cord and cauda equina. The infective, vasculitic and paraneoplastic screening were negative. Both anti-MOG and AQP4 were also negative. Malignancy screening was negative. However, his CSF and serum anti-GFAP antibody levels were strongly positive. He was managed with IV methylprednisolone, plasmapheresis and rituximab over two months with marked improvement.

**Conclusion** GFAP astrocytopathy should be acknowledged as a rare potential neurological complication of COVID-19 vaccination, especially if meningoencephalitis is present.

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### PARANEOPlastic LONGITUDINALLY EXTENSIVE TRANSVERSE MYELITIS IN THE CONTEXT OF RENAL CELL CARCINOMA

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Neuromyelitis optica spectrum disorder (NMOSD) is a relapsing inflammatory disorder of the central nervous system most commonly associated with aquaporin-4 antibody (AQP4) and anti myelin oligodendrocyte antibody (MOG). Most commonly an idiopathic autoimmune condition, paraneoplastic NMOSD is a rare but important differential in older individuals presenting with LETM and should prompt investigation for a malignancy. We describe a case of NMOSD presenting as longitudinally extensive spinal cord lesion in a previously healthy 74 year old Asian female with renal cell carcinoma. Originally thought to be a metastatic intramedullary renal cell carcinoma metastasis, imaging was more consistent with a longitudinally extensive transverse myelitis (LETM) lesion. AQP4 and MOG antibodies were

negative in serum and cerebrospinal fluid. There was imaging improvement with limited functional recovery following initial treatment with intravenous methyl prednisone, plasma exchange, intravenous immunoglobulin, and rituximab. This case also highlights the need to identify candidate biomarkers associated with seronegative neuromyelitis optica spectrum disorder to improve early diagnosis and early management.

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### EFFICACY AND SAFETY OF AVALGLUCOSIDASE ALFA IN PARTICIPANTS WITH LATE-ONSET POMPE DISEASE AFTER 145 WEEKS' TREATMENT: PHASE 3 COMET TRIAL

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**Objectives** Report efficacy/safety of avalglucosidase alfa (AVAL) in participants with late-onset Pompe disease in the extended-treatment period (ETP) of COMET (NCT02782741) at 145 weeks from treatment initiation.

**Methods** Following a 49-week primary-analysis period (PAP), participants could enter the ETP. 100 participants (age 16–78 years) enrolled in the PAP.

**Results** All 51 who received AVAL 20mg/kg every 2 weeks (qow) in the PAP (AVAL-arm) continued this in the ETP. Of 49 who received alglucosidase alfa (ALGLU) 20mg/kg qow in the PAP, 44 entered the ETP switching to AVAL 20mg/kg qow (Switch-arm). Improvement or stabilization trends from Baseline to Week 145 were observed for primary and secondary outcomes of respiratory and motor function. Changes (LS mean[SE]) in upright forced vital capacity%predicted: AVAL-arm, +1.40(1.21); Switch-arm, +1.18(1.32) and 6-minute walk test distance: AVAL-arm, +20.65(9.60)m;

Switch-arm, +0.29(10.42)m. Similar trends occurred in other Week-145 outcomes. Treatment-emergent adverse events (AEs) in the ETP occurred in 49(96.1%) AVAL-arm and 43(97.7%) Switch-arm participants. Five discontinued during the ETP for 6 treatment-emergent AEs; 4 treatment-related (ocular hyperemia, erythema [in same participant], urticaria, respiratory distress) and 2 non-treatment-related (acute myocardial infarction, pancreatic adenocarcinoma). In the ETP, 13(25.5%) AVAL-arm and 12(27.3%) Switch-arm participants had treatment-emergent serious AEs (SAEs); 3 and 2 of them, respectively, had treatment-related SAEs. Switch-arm participants showed no safety/immunogenicity-related concerns.

**Conclusions** Week 145 results show sustained treatment effect and continued benefit with AVAL beyond the PAP, and stabilization of treatment effect after switching from ALGLU to AVAL, supporting long-term maintenance of clinically meaningful outcomes with AVAL.

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### RARE VARIANTS OF SUPEROXIDE DISMUTASE 1 – THERAPEUTIC RELEVANCE

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**Background** A genetic cause for amyotrophic lateral sclerosis (ALS) is evident in 10–15% of patients. Mutations in superoxide dismutase 1 (SOD1) are the second most commonly implicated linkage, comprising 14% of genetic cases. More than 185 variants of SOD1 mutations have been identified, with few variants linked to a defined clinical phenotype. Of relevance, the antisense oligonucleotide (ASO) therapy tofersen is being trialled for SOD1 ALS patients, prompting discussion about which variants should be considered pathogenic.

**Case** Three patients living with rare SOD1 mutations, all with slow disease progression, are presented. Case 1 (49F): SOD1 mutation A-G, H43R has a 15 year history of disease with only bulbar symptoms and mild weakness of distal upper limbs. Case 2 (39M): SOD1 mutation Asn66Ser has an 11 year history of distal lower limb weakness, still able to mobilise with aids (AFO, SPS), with disease progression to distal upper limbs and no bulbar symptoms. Case 3 (61M): SOD1 mutation His49Arg has a 22 year history of disease, initially right lower limb onset ALS which has progressed to weakness of all limbs. He uses a mobility scooter though remains independent for transfers, with no bulbar symptoms.

**Discussion** The present case series highlights the complexities of 3 patients with rare SOD1 variants, unified by remarkably slow disease progression. In the context of focussed genetic therapies for ALS such as ASO, patients and clinicians need precise information about rare variants to project individual disease trajectory and thereby establish the optimal time to commence therapy.