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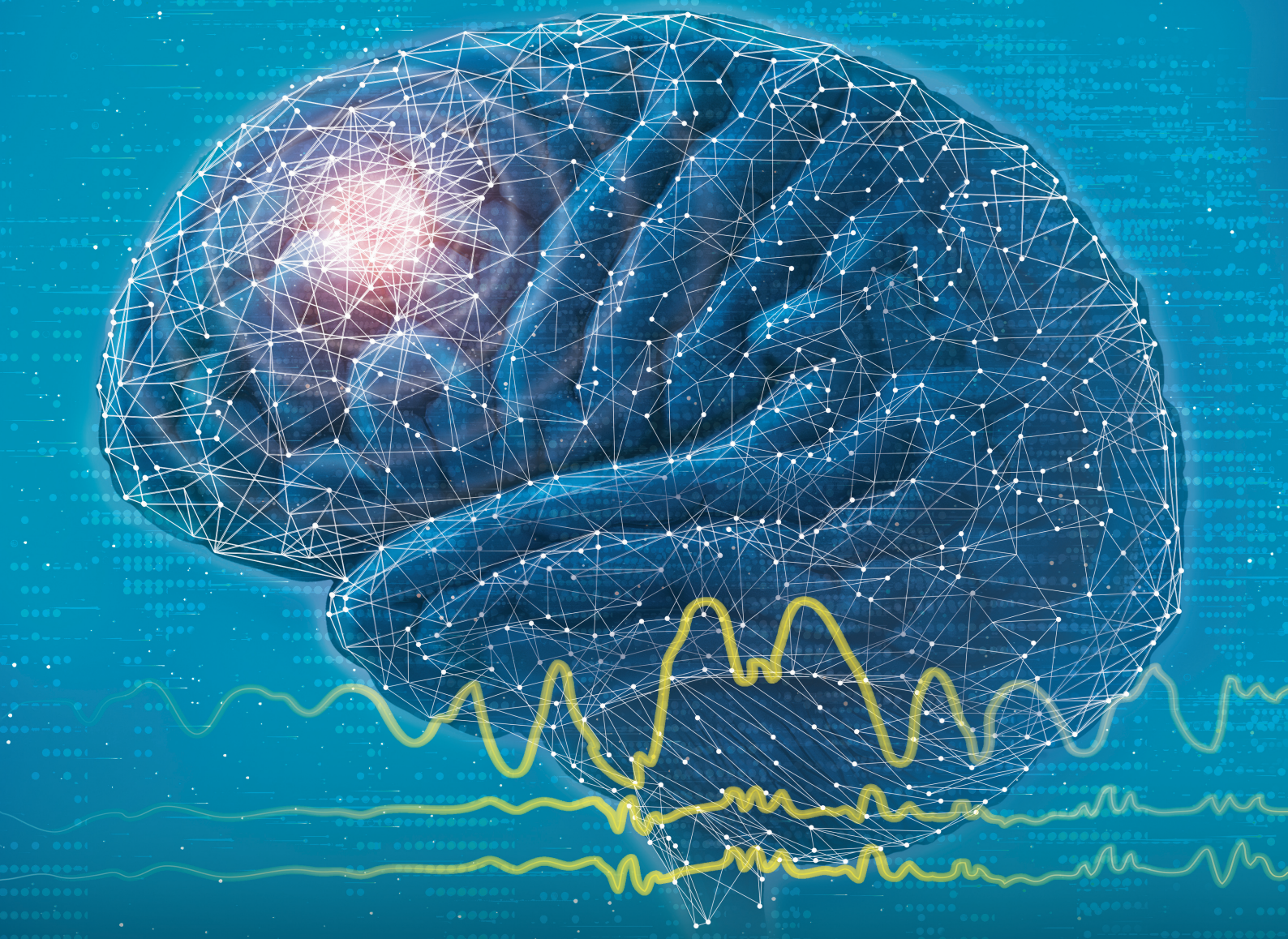

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SUPPLEMENT ARTICLES

K-Nearest Neighbors, Random Forest, Gradient Boosting, Adaptive Boosting, Bagging, and Extremely Randomized Trees. Their results were given to a Stacking classifier as an ensemble method to perform the final classification using the best results. Hyper-parameters were trained using grid search and validated on 5-fold cross-validation.
Results: 1445 patients (964 with focal epilepsy and 481 with IGE) were available for the experiment. The classification results of test data demonstrated 0.81 precision, 0.81 sensitivity, 0.77 specificity, and 0.81 F1-score.
Conclusion: Machine learning applications may help differentiate focal epilepsy from IGE using easily obtainable clinical features. Such applications would be very helpful to correctly differentiate common epilepsy types from one another (focal vs. IGE) in places with a lack of experienced medical professionals.

Digital Poster Presentations

Adult Epileptology

77 | Compliance, side effects, and psychosocial outcomces in adult epilepsy care in western Sweden: initial report from the region-wide PREDICT study

J Zelano[1,2,3], F Asztely[2,4]
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Purpose: Studies of realworld adult epilepsy care are often single-center, register-based, or predate the era of new ASMs. Prescription data studies show high retention rates of the first ASM in Sweden, but cannot provide further detail. The PREDICT (Prospective Regional Epilepsy Database and biobank study for Individualized Clinical Treatment) is a longitudinal study at the five largest public epilepsy care providers in western Sweden. Aims include finding risk factors of poor adherence to treatment, side effects, and negative psychosocial outcomes.
Method: PREDICT (clinicaltrials.org:NCT04559919) is a regional prospective study of epilepsy in Region Västra Götaland (population 1.7 m). Adults with first seizures or epilepsy are recruited at five epilepsy care providers, including the regional tertiary epilepsy center. After informed consent, epilepsy characteristics are extracted from the medical records and participants answer a survey including seizure situation, compliance, and side effects. Patients are followed prospectively in medical records, national registers, and repeat surveys.
Results: By December 2022, 433 patients had been recruited. Compared to register data the cohort was representative regarding age (mean age 46) and sex (48.6% male) of patients seen by neurologists in VGR. The majority (60.5%) had focal epilepsy. Forty-one percent reported side effects of their current ASM regime, 50.1% had forgotten to take their ASM in the last year, and 33% had forgotten to do so multiple times. Side effects were more common among those stating non-adherence. Nearly 60% were currently employed.
Conclusion: We found high rates of non-adherence and side effects, which could reflect less-than-optimal follow-up in standard epilepsy care. Analyses of risk factors of non-adherence and relationship to the seizure situation are ongoing. The PREDICT study will hopefully provide insights on which patient groups need particular attention from health services for optimal epilepsy outcomes and illustrates the need for observational studies using primary sources, as a supplement to register-based investigations.

156 | Safety and tolerability of COVID-19 vaccines in people with epilepsy

J Salimjonov[1], K Khalimova[1], N Rashidova[1]
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Purpose: The purpose of our study was to investigate the safety and tolerability of COVID-19 vaccines in people with epilepsy (PWE) and seizure control after vaccination.
Method: The study included 87 adult patients (>18 years of age) with epilepsy who received a full course of vaccination, including a booster dose of the vaccine. All patients were followed up for 6 months after receiving a booster dose of the vaccine. We collected patient data using a standard form. The form contained questions about patient demographics, current antiepileptic therapy, information about vaccinations, side effects and adverse events associated with epilepsy. Patients were divided into two groups: the first group included patients with an increase in the frequency of seizures, and the second group,

patients with stable seizures. All patients were taking antiepileptic drugs.

Results: Of the 87 patients, 42 were male and 45 were female. In 83 patients (95.4%), there was no increase in the frequency of seizures, while in 4 patients (4.6%) there was an increase in seizures. Post-vaccination seizures occurred mainly within 7 days after the introduction of the vaccine. Patients in the first group were treated on average with more anticonvulsants and had a higher frequency of seizures before vaccination compared with patients in the second group, and it was patients in the first group who experienced an increase in seizures. There was no significant difference in the number of seizures before vaccination, month between doses, month after vaccination and within 6 months after receiving the booster dose in patients of the second group. None of the patients reported status epilepticus.

Conclusion: Our study shows that COVID-19 immunization is safe and well tolerated in PWE. The vaccines had no effect on the monthly number of seizures. Only a small number of patients experienceda short-term increase in the frequency of seizures.

173 | Presence of parkinsonism and limb dystonia in anti-Ma2-associated encephalitis: a case report, and review of the literature

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Purpose: We reported a 25-year-old man presented psychosis and memory impairment since the age of 21. Two years later, frequent right medial temporal lobe epilepsy developed, with the presence of transient conscious lapse and chewing. Additionally, episodic left-hand and foot dystonia occurred that were not related to seizure events. Physical examination revealed vertical gaze palsy and some parkinsonism features, like mask face and hypokinesia. The Tc-99m trodat image did not show the corresponding result. Magnetic resonance imaging (MRI) showed bilateral hippocampal T2 hyperintensity and atrophy. 18-FDG-PET disclosed relatively symmetrical uptake in the basal ganglia (BG), thalamus, and cerebellum, with bilateral hippocampal hypermetabolism. The electroencephalogram presented abundant and transient periodic sharp waves at F8-T2 and alternating temporal intermittent rhythmic delta activities. Anti-Ma2 antibodies were finally identified from his serum. There was no positive finding after whole-body tumor screening. Dystonia only partially improved after a low-dose trial of levodopa, but moderately improved after plasmapheresis. Based on this phenomenon, we hypothesized that the asymmetrical involvement of the deep gray matter occurred in anti-Ma2-associated encephalitis.

Method: We conducted electronic searches in the PUBMED, EMBASE, ScienceDirect with keywords of ('anti-ma2-associated encephalitis' OR 'anti-ma2 antibody' OR 'anti-ma2 receptor') AND ('movement disorders' OR 'hyperkinetic' OR 'hypokinetic' OR 'dyskinesia' OR 'dystonia' OR 'chorea').

Results: Anti-Ma2-associated encephalitis comprised a spectrum of limbic, diencephalic, and brainstem syndromes. Atypical parkinsonism accounts for around 10% of the patients. Movement disorders such as chorea and dystonia were rarely reported. Dopamine transporter and metabolic images could not well demonstrate the corresponding basal ganglion lesion. BG and brainstem involvement in anti-Ma2-encephalitis had been reported. Nonetheless, which structure involvement is related to dystonia and parkinsonism in anti-Ma2 antibodies has not been concluded.

Conclusion: Future research for the mechanism of the asymmetrical limb dystonia in anti-Ma2-associated encephalitis is warranted.

176 | Comparison of valproate use in male versus female patients with juvenile myoclonic epilepsy treated at a complex epilepsy centre

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Purpose: Juvenile myoclonic epilepsy (JME) is a subtype of idiopathic generalised epilepsy (IGE) affecting 5-11% of patients with epilepsy. Valproate is an effective antiseizure medication (ASM) for this syndrome. However, there are significant challenges prescribing valproate due to teratogenicity. We aim to study factors associated with drug-refractory (failed ≥2 ASMs) JME and the use of valproate in males versus females.

Method: We performed a retrospective study of consecutive patients with JME treated at Beaumont Hospital extracted from our epilepsy Electronic Patient Records (EPR). We included patients aged between 18 and 55, with an abnormal EEG compatible with JME/IGE, history of myoclonus, and under active follow up. Baseline clinical data was obtained from EPR. Statistical analyses were completed using STATA, significance level was set at $p<0.05$, and Fisher's exact test for analysis between groups.