Objectives Arterial and venous thromboembolic events (TEEs) have been associated with intravenous immunoglobulin (IVIg) use, but the risk has been poorly quantified. We aimed to calculate the risk of TEEs associated with IVIg exposure.

Methods We included participants from UK Biobank. Study endpoints: incidence of myocardial infarction, other acute ischemic heart disease, stroke, pulmonary embolism, other venous embolism, and thrombosis. Predictors included known TEE risk factors: age, sex, hypertension, smoking status, type 2 diabetes mellitus, hypercholesterolemia, cancer, and history of TEE (phx). IVIg was added in the sensitivity analysis.

Results 14 794 of 502 543 individuals had an incident TEE during the study period. In the phx category, IVIg exposure was independently associated with increased risk of incident TEE (OR= 3·69, p=0·03) on multivariate analysis. The number needed to harm in phx group was 5·8 (95% CI, 2·3–88·3).

IVIg exposure did not increase risk of TEE in those without phx. If everyone in the phx group was exposed to IVIg, the median risk of recurrent event in those <60 years of age increases from 6.1% to 19.3% and in those >60 from 9.1% to 26.9% (moving nearly 50% of individuals into >20% risk of recurrent TEE). A similar change in risk was seen if the cohort was divided by gender.

Conclusion IVIg is associated with increased risk of further TEE in individuals with phx. In practice, this will influence how clinicians consent for and manage overall TEE risk upon IVIg exposure in high-risk patients.

2429 INVESTIGATING TRAUMATIC ENCEPHALOPATHY SYNDROME (TES) IN RETIRED ATHLETES, MILITARY PERSONNEL AND VICTIMS OF ASSAULT WITH A HISTORY OF SUSTAINED, REPETITIVE MILD TRAUMATIC BRAIN INJURY

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Objectives The SNAP-CTE Study aims to identify features and characteristics of the in-life experience of those who may be suffering from Chronic Traumatic Encephalopathy (CTE) and correlated Traumatic Encephalopathy Syndrome (TES). A cohort of 20 participants were included in the preliminary findings.

Methods 20 participants with a history of mTBI meeting current criteria for TES were evaluated for features of migraine disorder, cognitive decline, mood disorder and general medical history in a metropolitan neurology clinic. Participants with drug use outside of alcohol were excluded. Participants were included if they have experienced sustained and repetitive mTBI, in the absence of other neurological presentations and negative magnetic resonance imaging for an alternate cause.

Results The average age of participants was 55 years old, consisting of 90% male and 10% female participants. At presentation, 45% of participants were experiencing regular migraine symptoms. Up to 90% of participants were experiencing cognitive decline, for up to 3 years prior to presentation. Similarly, 80% of participants presented with mood disturbance, up to 6 years prior. ACE-III indicated MCI with an average score of 90. History of alcohol use disorder was noted in 40% of participants, with only 15% of participants using concurrently.

Conclusions Migraine disorder in TES presents an opportunity for investigation regarding pathophysiological processes associated with mTBI. Longer history of mood disturbance may be a better indicator of TES, versus cognitive decline, and both should be researched further. The TES cohort did not appear to have a predilection for self-medicating with alcohol use.

2280 ADHERENCE PATTERNS IN ANTISEIZURE MEDICATIONS (ASM) INFLUENCING THE RISK OF SUDDEN UNEXPECTED DEATH IN EPILEPSY (SUDEP): A DATA LINKAGE STUDY USING DISPENSED PRESCRIPTIONS

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Objectives This study aims to estimate antiseizure medication (ASM) adherence and identify adherence patterns that influence epilepsy mortality.

Methods We retrospectively identified a cohort of 1,187 Australian tertiary epilepsy outpatients from 1/01/2012 until 31/12/2017. Privacy-preserving data-linkage with the national prescription, death, and coroner's databases were performed. We fitted a 4-cluster longitudinal group-based trajectory model for ASM adherence from recurring 90-day windows of prescription dispensations during a 3-year 'landmark period,' 1/1/2012 to 31/12/2014. We estimated the risk of SUDEP and all-cause death for each adherence pattern during an 'observation period,' 1/1/2015 to 31/12/2017, using the Adhere-R package. The Cox-proportional hazards and logistic regression models were adjusted for age, sex, socioeconomic status, epilepsy duration, comorbidity, epilepsy severity and inadequate seizure control.

Results 1,187 participants were observed for a median of 3.2 years (IQR 2.4–4.0 years). We observed ≈10 cases of SUDEP during the observation period. We identified 4 patterns of ASM adherence: good 51%, declining 24%, poor 16%, and very poor 9%. Declining adherence was associated with an increased risk for SUDEP, hazard ratio 8.43 (95%CI 1.10, 64.45) at 1 year, and HR 9.17 (95%CI 1.16,72.21) at 3 years.

Conclusion Poor adherence is underappreciated and observed in half of the outpatients with epilepsy. A declining pattern of adherence, observed in a quarter of patients, is associated with more than eight times the increased risk of SUDEP. Any ongoing therapeutic interventions must be coupled with strategies to maintain and improve patient ASM adherence if we are to reduce the risk of SUDEP.