**Results:** Patients with TLE showed significantly lower performances on both social, cognition tasks when compared with controls.

**Conclusion:** Patients with TLE are found to be deficient in perceiving other's feelings in social context that may impair daily living.

### A0032: Epilepsy and Armed Forces

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**Objective:** The Objective of this paper is to make civilians aware of problem faced by people with epilepsy in armed forces, from enlistment in the services, during the services, retention in the services, and the discharge from the services.

**Methods:** Having served in armed forces for 24 years first as GDMO and then as a neurologist both in active war and peace time, I am in unique position to present it. Rules and regulations regarding this matter both in Indian army and other armies, such as U.S.A. will be presented.

**Results:** As far as getting into the Indian army is concerned, if a recruit while giving details of his past illness mentions having epilepsy or fits, he automatically gets disqualified to be recruited. Surprisingly, this is not only unique to Indian army, this perhaps to almost all the armies in the world. Even in the U.S.A., although there are many laws now that protect individuals with disabilities, the armed services are not required to follow them. Instead, the military is exempted from the mandates of nondiscrimination imposed by the civil rights laws on the federal government. If during the service individual has an epilepsy rules regarding the retention in the service in the Indian and the U.S.A. army will be discussed. Recently, there has been a change about retention in the service regarding patient with epilepsy. These changes will be highlighted, and consequences will be discussed. Three services have specific problems retaining people with epilepsy, for example, nobody likes to fly in plane with a pilot having epilepsy.

**Conclusion:** In armed forces we need young and fit individuals who are capable of fighting a war/battle in any part of the world under difficult circumstances. "Tooth to tail ration" has to be small and effective.

### A0033: Magnetic Source Imaging of Eloquent Cortex: Novel Findings and Implications

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**Objective:** Aim of this study is to localize eloquent cortex including vision, language, motor, and sensory area using MEG, study the efficacy of MEG in the localization of eloquent cortex, and to assess the changes in evoked responses due to a lesion in the eloquent cortex.

**Methods:** This study was performed at the department of neurosurgery, NIMHANS, from March 2016 to July 2019. Detailed clinical examination, multimodal evoked fields, and magnetic source imaging were recorded and analyzed. Patient underwent surgery and data obtained were correlated. Statistical analysis was performed using SPSS 2.0 and R statistical software. Mathematical models included linear regression, logistic regression, state vector machine, confusion matrix, and Wilcoxon's sign rank test to predict the nature of pathology.

**Results:** A total of 41 patients were recruited with a mean age of 33 years. The 196 evoked fields were analyzed. Amplitude was reduced in the evoked field in affected hemisphere and latency was prolonged. Amplitude of distant evoked field was affected more than latency in the epilepsy group than tumor group. Displacement of evoked field found was 33% in AEF, 57% in MEF, 9% in VEF, and 16% in SSEF. More patients in the epilepsy group had abnormality in the distant evoked fields.

**Conclusion:** MEG helped in localizing the eloquent cortex and presurgical MEG mapping of eloquent cortex would help in computing the distance between the lesion and eloquent cortex. Being a functional imaging tool, it can help in understanding the pathophysiology of the lesions and its effect on the eloquent cortex.

### A0034: Clinicodemographic Determinants of Quality of Life of Patients with Juvenile Myoclonic Epilepsy

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**Background:** Available literature on quality of life (QoL) and its clinicodemographic determinants in patients with epilepsy is on heterogeneous populations of patients. Patients with juvenile myoclonic epilepsy (JME) have a distinct clinicodemographic profile. We present our observations on clinicodemographic determinants of QoL in patients with JME.

**Objective:** To determine the quality of life and estimate the effect of clinicodemographic variables on quality of life of patient with JME.

**Methods:** Sixty patients with JME diagnosed as per standard clinicoelectroencephalographic criteria and aged ≥ 18 years were recruited by consecutive sampling method. Demographic details were recorded and QoL, quality of sleep, severity of depressive, and anxiety-related symptomatology were determined using quality of life in epilepsy-31 (QOLIE-31) questionnaire, Pittsburgh Sleep Quality Index (*p*SQI), Inventory of Depressive Symptomatology-Self Rated (IDS-SR), and Hamilton Rating Scale for Anxiety (HAM-A), respectively. Univariate and multivariate analyses of the demographic factors and clinical factors including epilepsy-related variables, sleep quality, depression, and anxiety was done.

**Results:** Our study population comprising 45 females and 15 males had mean age (±SD) of 23.55 years (±5.55 years). Two-thirds of patients had mild to very severe depression. Majority (44 patients) of the patients had mild anxiety and poor quality of sleep. QOLIE-31 score was higher among males, those with education level above 12th standard and belonging to middle and upper socioeconomic groups. Patients with myoclonic seizures alone had better quality of life compared with patients with GTCS-absence semiology ($p < 0.05$). QoL negatively correlated with severity of depressive and anxiety symptomatology and quality of sleep. Statistically significant correlation between duration of medication and per capita income with severity of depressive and anxiety symptoms was observed. Multivariate analysis did not show any significant correlation of demographic and clinical factors with QoL.

**Conclusion:** Clinicodemographic factors intricately affect quality of life in patients with JME. Poor socioeconomic class and presence of comorbid depression, anxiety, and poor sleep quality are associated with poorer quality of life among patients with JME.

### A0035: The Study of Cognitive Functions and Neuropsychiatric Comorbidities among Intractable Epilepsy Patients in a Tertiary Care Hospital

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**Introduction:** People suffering with epilepsy often present with cognitive dysfunction, neuropsychiatric comorbidities, such as cognitive impairment, depression, anxiety, and other behavioral problems. These illnesses may aggravate the epileptic manifestations in intractable epilepsy patients. The cognitive dysfunction and psychiatric comorbidities may be due to the intractable seizure itself, structural damage to the brain, and antiepileptic drugs. There is lack of studies in Indian context regarding the cognitive functions and neuropsychiatric comorbidities in intractable epilepsy patients.

**Aim:** To study the cognitive functions (IQ, MQ, visuoperceptual functions) and neuropsychiatric comorbidities (anxiety and depression) in intractable epilepsy patients.

**Methods:** Around 600 patients who fulfilled the criteria of drug-resistant epilepsy (ILAE, 2010) were included in the study. Only 506 patients underwent detailed history and neurological examination, radiological investigations, neuropsychological evaluation, educational, occupational status assessment, and quality of life assessment. Neuropsychological evaluations (intelligent quotient [IQ], the mental quotient [MQ], Bender–Gestalt test [BGT], anxiety and depression scales) were performed within 2 to 3 months after the radiological investigation.

**Results:** Out of 506 patients with intractable epilepsy, 147 patients (29.05%) had mental retardation (< 69) score in Wechsler intelligence scale. 20% ($n = 104$) of them had dull normal intelligence. Two hundred and fifty-five patients (50%) of them had average intelligence. Wechsler's memory quotient scores were low (< 70) in 194 patients (38.34%) and showed memory dysfunction. BGT revealed abnormal visuoperceptual gestalt functions in 218 patients (43.08%). Multiphasic personality questionnaire to assess anxiety and depression could not be administered in 147 patients who had mental retardation. Multiphasic personality questionnaire administered to patients without mental retardation showed anxiety in 161 patients (31.82%), depression in 142 patients (28.06%), and mixed anxiety and depression in 126 patients (24.90%). Pearson's Chi-square test did not reveal any significant difference between the IQ, MQ, BGT, anxiety, depression and quality of life scores between the generalized and partial seizures. Abnormal IQ scores (below average), MQ scores, BGT Results were strongly associated ($p < 0.01$) with MTS. Significant proportion of patients with intractable epilepsy who had no structural abnormalities had normal IQ scores, MQ scores, and BGT Results. A significant proportion of patients with MTS had anxiety and depression. Also, a significant proportion of patients without any structural abnormalities did not show any signs of anxiety or depression. Another significant proportion of patients with MTS had combined symptoms of anxiety and depression ($p < 0.05$).

**Conclusion:** The present study highlights that patients with intractable epilepsy are often associated with neuropsychological manifestations, such as cognitive impairment (mental retardation: 29.05%, memory impairment: 38.34%, abnormal visuoperceptual gestalt functions: 43.08%), anxiety (31.82%), depression (28.06%), and mixed anxiety–depression (24.90%). Hence, diagnosing these conditions is very important among the intractable epilepsy patient and treating them effectively with drugs as well as counseling.

### A0036: Effect of T-Type of Calcium Channel Blockers on Behavioral, Biochemical, Immunohistochemical, Oxidative, and Histopathological Parameters in Chemically Induced Seizure Tests in Wistar Albino Rats

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**Objective:** To study the effect of t-type of calcium channel blockers on behavioral, biochemical, immunohistochemical, oxidative, and histopathological parameters in chemically induced seizure tests in Wistar albino rats.

**Methods:** The study proposal was approved by the Institutional Review Board (IRB) and all study procedures were performed in accordance with the CPCSEA guidelines. The study was done on the healthy, adult Wistar albino rats of either sex as per the standard protocol described in the literature. This study consisted of four groups, each with six animals. The study groups were group I (vehicle control), group II (negative control), group III (positive control), and group IV (experimental drug [t-type of calcium channel blocker: Flunarizine]). Statistical software, GraphPad Instat 3.0 version