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A001: Three Staged Epidemiological Survey of Pediatric Epilepsy in a Rural Suburb of Pune

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Introduction: Epilepsy is the most common serious neurological disorder of childhood; more than 50% of seizures start in childhood. Prevalence rate of epilepsy is higher in developing countries.

Materials and Methods: This was a three-stage cross-sectional epidemiological survey to determine prevalence of childhood epilepsy in a rural population of ~42,000. At first stage, children between 2 months to 18 years (total = 9,487) were screened by validated screening questionnaire by a door to door survey by trained health workers. At second stage, those screened positive were assessed by pediatric neurologists by home visit. At third stage, those with history consistent with epilepsy underwent free EEG and advised about appropriate treatment. Treatment gap and knowledge, attitude, and practice (KAP) of mothers were also evaluated.

Results: In the first stage, 260 children were screened positive. In second stage, 31 had unequivocal seizures, excluding febrile seizures, breath holding spells, etc. Focal seizures were most common type of seizures and epilepsy. Point prevalence of pediatric epilepsy was 0.75 per 1,000 population. More than 50% of children with epilepsy had at least one associated comorbidity. EEG abnormality was in 61% with identified etiology in 55%, commonest being perinatal insult. Treatment gap was found to be 57%. A significant knowledge gap was found in our study.

Conclusion: Prevalence of epilepsy was found to be 0.75 per 1,000 population. There was a huge treatment gap and inappropriate KAP among the caregivers. To the best of our knowledge, study incorporating EEG in epidemiological survey of pediatric epilepsy is the first of its kind in India.

A002: Evolution of Electroclinical Characteristics of West Syndrome: A Hospital Based Retrospective Study

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Introduction: West syndrome (WS) is an epileptic encephalopathy with onset between 4 and 8 months of age. Long-term prognosis of epilepsy and developmental outcome in WS remains under-explored. This study explains evolution of electroclinical characteristics in WS.

Objective: (1) To compare electroclinical characteristics between cryptogenic and symptomatic WS; (2) to compare effectiveness of treatment modalities with respect to clinical and developmental outcome; (3) to assess evolution of EEG pattern in WS; (4) to study clinical outcome of symptomatic WS with respect to imaging findings.

Methods: Electro-clinico-radiological data of 76 children with WS were collected retrospectively by reviewing case records and followed-up after 1 year for clinical and developmental outcomes.

Results: Among 76 children enrolled, 31 (40.8%) had cryptogenic and 45 (59.2%) had symptomatic etiology. Children with symptomatic WS (p = 0.037) with gliosis on imaging (p = 0.05) were more likely to have other seizure types before onset of spasms and exhibit delay or regression in milestones (p = 0.017). Of 71 patients who had modified hypsarrythmia pattern, those with other seizure types had multifocal spikes (p = 0.021). There was negative correlation between time to diagnosis and reduction in Engel scores (r = −0.32, p = 0.01). There was significant reduction in Engel scores with ACTH, irrespective of etiology (p < 0.001 in cryptogenic and symptomatic) or dose (p = 0.021 in high [> 20 IU] and p < 0.001 in low dose groups). Those with asymmetric hypsarrythmia or multifocal spikes showed better clinical improvement (p = 0.004). Those who failed to achieve seizure remission most likely exhibited developmental delay or regression (p = 0.019).

Conclusion: Early diagnosis and appropriate treatment with ACTH and antiepileptic medications is the key toward improved outcome in WS, irrespective of etiology.

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