

or encephalopathic process in some cases. Additional factors involved in the mechanism of the FS include a genetic susceptibility, age and maturation, and cytokine and immune response to infection [1]. The association of allergic rhinitis and FS in the present study was significantly higher in children 0.5 to 2 yrs of age (the age of susceptibility to FS), of male sex, and with frequent FS-related clinic visits. Children with FS had a higher association with other atopic comorbidities, including asthma (8.08% vs 5.62%, $p=0.006$) [2].

Allergies and immune reactions are proposed as factors in the etiology of FS [3]. In 1953, Dees, reporting on EEG observations in so-called “allergic epilepsy,” emphasized the significance of occipital dysrhythmia in children with allergies complicated by convulsions [4]. Allergic disorders may also increase the risk of ADHD [5], and the risk of ADHD is increased in children with FS [6]. A significant association between proinflammatory cytokine, IL-1B, and both ADHD and FS may be a link in the mechanism of these disorders [6].

References.

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SEIZURE DISORDERS

IV METHYLPREDNISOLONE FOR INTRACTABLE EPILEPSY

Investigators at King Abdulaziz University, Jeddah, Saudi Arabia, report their experience with IV pulse methylprednisolone in the treatment of children with severe drug-resistant epilepsy. Patients with infantile spasms, progressive degenerative, or metabolic disorders were excluded. Of 17 children aged 2-14 (mean 5.3) years, 88% had daily seizures and 13 (76%) had been admitted previously with status epilepticus. Cognitive and motor deficits were recognized in 82%. The epilepsy was cryptogenic in 47% and seizures were mixed in 41% (Lennox Gastaut in 4 (23%) and Doose syndrome in 2 (12%)). EEG showed focal or multifocal epileptiform discharges in 7 (41%) and generalized epileptiform discharges in 10 (59%). IV methylprednisolone 15 mg/kg/day, divided every 6 hours for 3 days was followed by oral prednisolone at 1-1.2 mg/kg/day once am for 1 week, then weaned slowly over 2 to 8 weeks (mean 3 wks). After follow-up for 6-24 months (mean 18), 6 (35%) became completely seizure free but 3 relapsed later, and 10 (59%) were improved. Those with mixed seizures were more likely to have a favorable response than those with one seizure type. No major side effects were noted, and 35% had improved alertness and appetite. (Almaabdi KH, Alshehri RO, Althubiti AA, et al. Intravenous methylprednisolone for intractable childhood epilepsy. *Pediatr Neurol* 2014 Apr;50(4):334-6).

COMMENTARY. A trial of add-on steroid therapy may be effective in children with intractable seizures of mixed type, apart from those with infantile spasms. Multiple

antiepileptic medications were ineffective; the ketogenic diet was unavailable in this center and had not been tried.

Of 314 children enrolled in the Far-East Asia Catastrophic Epilepsy (FACE) study group, age of onset of epilepsy was <12 months in 239 cases (80%), epileptic spasms were the most frequent seizure type (in 42%), followed by generalized tonic seizures (in 20%) [1]. Epileptic syndromes included West syndrome (in 37%), unclassified (21%), Lennox-Gastaut (12%), Dravet (4%), and Rasmussen (2%). Cortical dysplasia and chromosomal anomalies were the two most frequent causes of epilepsy, in 16% and 6%, respectively; in almost one half of patients, the cause was unknown. Psychomotor development was retarded in 62% cases.

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PSYCHOGENIC NON-EPILEPTIC SEIZURES

Investigators at the National Institute of Mental Health and Neurosciences, Bangalore, India, conducted a retrospective analysis of semiologic patterns of psychogenic non-epileptic seizures (PNES) diagnosed by video EEG in 56 children aged < 18 years (mean age 12.3 yrs; range 2-17 yrs). Age at onset of PNES was 8.9 yrs (range 0.4-15.8 yrs); age at diagnosis 11.9 yrs (range 2-17 yrs); delay in diagnosis 3.2 yrs (range 0-15 yrs). Associated diagnoses included anxiety in 16%, stress in 10%, and depression (10%). Coexistent epilepsy in 16% patients was complex partial in 8.9%, generalized tonic-clonic in 5.4%, and simple partial in 1.8%. Prior to VEEG, 33 (59%) patients were initially misdiagnosed as epilepsy and were treated with AEDs; in 14 patients (25%) the initial diagnosis of PNES was unchanged after VEEG. EEG during a PNES showed various artifacts, depending on the type of movement or coma-like state. MRI performed in 14 patients with PNES alone was normal in 12 (86%) and showed non-specific white matter signal changes or UBOs in 2. Characteristic signs of PNES were flexion/extension movements, moaning and gasping, tremors, flaccidity, vocalization, hyperventilation, and pelvic thrusting. Eyes were closed in 25 (45%) and remained open during the PNES in 55%. The EEG technician's simple motor commands were followed by 55% during the event. PNES was classified in 5 categories: I. Abnormal motor (hypermotor (23%) and partial (14%)); II. Affective/emotional behavior 3.6% (moaning, grunting); III. Dialeptic 14% (coma-like state, flaccidity); IV. Aura 5.4% (subjective feeling, dizziness); V. Mixed (39%). (Dhiman V, Sinha S, Rawat VS, et al. Children with psychogenic non-epileptic seizures (PNES): a detailed semiologic analysis and modified new classification. *Brain Dev* 2014 Apr;36(4):287-93).

COMMENTARY. Video-EEG is important in the diagnosis and differentiation of epileptic seizures from PNES. Epilepsy and PNES are coexistent in 16% of cases. In a previous semiologic analysis of 27 childhood PNES cases based on video-EEG monitoring, mean duration of PNES was longer compared to epileptic seizures, eyewitnesses were almost always present, eyes were closed at the onset in only 15% of events, tremor was the most frequent motor sign, and dialeptic PNES was most frequent among younger children [1].