




Theme: Pediatric Neurology

 **Early ictal and interictal patterns in FIRES: The sparks before the blaze.** (*Epilepsia*. May 26, 2017. Doi: 10.1111/epi.13801. [Epub ahead of print])

Febrile infection related epilepsy syndrome (FIRES) is a catastrophic epileptic encephalopathy which presents with explosive onset of super-refractory status epilepticus in previously healthy children. This retrospective case series of seven children with FIRES describes their clinical and electroencephalographic characteristics. Testing for infectious, autoimmune, paraneoplastic and metabolic etiology was not contributory. Initial 12 hour EEG recording of all patients revealed paucity of electrographic seizures that evolve to status epilepticus. It also revealed delta beta complexes resembling extreme delta brush. Seizure pattern consisted of focal fast activity >10 Hz evolving to rhythmic spike wave complexes after 30-45 seconds. In few patients, the rhythmic discharge shifted from one to other hemisphere. Authors believe that these EEG findings could facilitate early recognition of FIRES, and therapeutic decision-making.


 **Amplitude integrated EEG compared with conventional video EEG for neonatal seizures.** (*J Child Neurol*. 2017;32:815-22)

Amplitude integrated electroencephalography (EEG) has been used increasingly for detection, monitoring and management of neonatal seizures. This diagnostic accuracy study compared the accuracy of seizure detection by amplitude-integrated EEG with conventional video EEG in term and near-term infants at risk of seizures. Thirty-five infants were subjected to simultaneous recording. Of the 169 seizure episodes on video EEG, only 57 were identified by amplitude integrated EEG. Amplitude integrated EEG had 86% sensitivity and 50% specificity for detecting a true seizure. This study raises concern of routine use of amplitude integrated EEG for detection of neonatal seizures.


 **Ketogenic diet for pediatric super-refractory status epilepticus.** (*Seizure*. 2016;41:62-5)

Ketogenic diet is a high fat, low carbohydrate and sufficient protein diet that has proven efficacy in management of refractory epilepsy. The present study explored the possible role of ketogenic diet in children

with super refractory status epilepticus (SRSE). Data of ten children with SRSE with varied etiology (including Rasmussen encephalitis, anti-NMDA receptor encephalitis, post-infectious mycoplasma encephalitis, Lennox Gestaut syndrome and other genetic epilepsy) were examined. Median duration of status epilepticus was 18 days and number of antiepileptic drugs was 3.0 prior to initiation of diet. Nine out of ten patients achieved resolution of SRSE, and were weaned off anaesthetic support within 7 days and 15 days respectively. Only one patient required supplementation secondary to side effect of diet. Authors suggested a possible role of ketogenic diet in SRSE in children.

 **Low-dose vs. high-dose corticosteroid therapy in Bell's palsy.** (*J Child Neurol*. 2017;32:72-5)

This retrospective data review compared the therapeutic efficacy of low dose (1 mg/kg/day) and high dose (2 mg/kg/day) corticosteroids for Bell's palsy in children. Severity of idiopathic facial palsy was graded according to House-Brackman grading. Data revealed no significant difference in complete recovery in low dose and high dose groups at 1, 3 and 6 months of treatment. Authors proposed low dose steroids to be as effective as high dose steroids for treatment of Bell's palsy.

 **Operational classification of seizure types by the International League Against Epilepsy (ILAE).** (*Epilepsia*. 2017;58:522-30)

Key changes in the revised operational classification of seizure types include: 'partial' seizure becomes 'focal'; awareness is used as a classifier of focal seizure (terminology of simple partial seizure is replaced with focal seizure with preserved awareness); terms like dyscognitive, simple partial seizure, complex partial seizure and psychic are eliminated; 'focal to bilateral tonic clonic seizure' replaces secondary generalized seizure; new types introduced (automatism, behavioral arrest, hyperkinetic, autonomic, cognitive and emotional seizures) – others include myoclonic absence, eyelid myoclonia, myoclonic atonia and myoclonic-tonic clonic seizures.

JAYA SHANKAR KAUSHIK
jayashankarkaushik@gmail.com