

have no clinical signs and therefore require continuous electroencephalographic (cEEG) monitoring for their detection. We sought to determine which neonates are at highest risk for seizures in order to optimize allocation of scarce cEEG resources. **Methods:** We identified term neonates diagnosed with HIE who underwent at least 24 hours of protocol-based cEEG monitoring between 2016 and 2019. We quantified seizure incidence, timing and burden, and correlated these with potential risk factors such as HIE severity, use of therapeutic hypothermia, preceding suspected clinical seizures, amplitude-integrated EEG (aEEG) background and patterns suspicious for seizures, and use of anti-seizure drugs. **Results:** cEEG monitoring was completed in 218 neonates with HIE, of whom 164 (75%) underwent therapeutic hypothermia. Preceding clinical/aEEG seizures occurred in 147 (67%), 99 (67%) of whom had been cooled but only 22 (10%) had cEEG-confirmed seizures. Characterization of seizure burden and correlation with potential risk factors is ongoing. **Conclusions:** Although seizures are commonly suspected in neonates with HIE, they are infrequently confirmed during cEEG monitoring, creating opportunities for more efficient risk-based allocation of cEEG resources.

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Adrenal Insufficiency among Children treated with Hormonal Therapy for Infantile Spasms

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Background: Hormonal therapy is a standard treatment for infantile spasms. The high doses given and long treatment duration expose patients to the risk of adrenal insufficiency (AI). This study aims to quantify the incidence of AI among children with infantile spasms treated with corticosteroids and/or adrenocorticotropic hormone (ACTH). **Methods:** A retrospective chart review of patients treated for infantile spasms was performed between January 2009 to March 2020 in one pediatric specialized hospital. Variables collected included patient and treatment characteristics, risk factors of AI and adrenal function testing. Analysis included descriptive statistics. **Results:** Thirty-one patients met the inclusion criteria and received a total of 33 separated courses of treatment. Adrenal function following each course of treatment was evaluated in all patients. AI occurred in 25/33 (76% [95CI 58-89]) children. There was no predictive factor of AI. No drug regimen was deemed safe. The two patients (6%) with an acute adrenal crisis were the youngest of the cohort. **Conclusions:** Adrenal suppression is frequent and can lead to adrenal crisis after standard hormonal therapy for infantile spasms. A routine laboratory assessment of adrenal function should be done for all patients. Hydrocortisone replacement therapy should be given until testing results are obtained, particularly for younger infants.

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The Epilepsy Surgery Experience in Children with Infantile Spasms at the Hospital for Sick Children

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Background: Infantile spasms (IS) is an epileptic encephalopathy, characterized by epileptic spasms, hypsarrhythmia, and developmental regression. This is a retrospective case series detailing the experience in children with IS who have undergone epilepsy surgery at The Hospital for Sick Children (HSC). **Methods:** Records of 223 patients from HSC were reviewed. Patients were included if they had a current or previous history of IS with a lesion detected on MRI/PET scan who underwent epilepsy surgery. **Results:** Nineteen patients were included. The etiology of IS was encephalomalacia in six patients (32%), malformations of cortical development in 11 patients (58%), atypical hypoglycaemic injury in one patient (0.5%), and partial hemimegalencephaly in one patient (0.5%). The median age at the onset of IS was five months. The median age at surgery was 18 months. Nine patients (47%) underwent hemispherectomy and 10 patients (53%) underwent lobectomy/lesionectomy. Fifteen patients (79%) were considered ILAE Seizure Outcome Class 1. Developmental outcome was improved in 14/19 (74%) and stable in 5/19 (26%) patients. **Conclusions:** Even with a generalized EEG pattern such as hypsarrhythmia, patients should be considered for focal resective surgery. Early surgical intervention shortens the duration of active epilepsy thus limiting the potentially irreversible effects of on-going seizures.

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Generator replacement with cardiac based VNS device in children with drug-resistant epilepsy

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Background: We aimed to study the proportion of patients with DRE and pre-existing VNS device, who show improvement of at least one class in McHugh seizure outcome classification at last follow up after generator replacement with cardiac based VNS device. **Methods:** We retrospectively reviewed children with DRE with the older VNS model (102) who underwent battery replacement with the AspireSR®, model 106 since September 2016 at our institution. We assessed the seizure