study population comprised 164 patients (65 males) 6.25-year-
old on average at absence onset. 22% had treatment-resistant
seizures. The first ASM was Ethosuximide in 63.4%, Valproic
acid in 23.2%, and Lamotrigine in 6.7%. Statistical differences
between response groups included developing a second seizure
type specifically GTC, the second and third ASM, and absence of
EEG normalization. At last follow-up, 43.3% of children were
seizure-free off ASMs. 32.9% of children had learning disabil-
ities, 28% ADHD, and 12.8 % anxiety. Conclusions: 22% of
children with CAE had treatment-resistant seizures. Photoparox-
ysmal response was not predictive of treatment resistance. Neu-
ropsychiatric problems were common with learning disabilities
increased with refractory absences.

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Midline Spikes and Intractable Seizures in Pediatric Epilepsy
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Background: Epileptic discharges localized to the midline
vertex are rare. However, they have been associated with intract-
able seizures and severe long-term consequences in the develop-
ing brain. Our study aimed to understand the etiology of
 pediatric midline seizures and define post-surgical seizure out-
comes. Methods: We reviewed charts, electroencephalography
(EEG), and neuroimaging studies of ten pediatric patients with
epileptic discharges localized to the midline vertex in the Com-
prehensive Epilepsy Program. The seizures were classified
according to the International League Against Epilepsy criteria,
patient age, sex, neuroimaging results, seizure etiology and out-
omeans were obtained. Results: Age of seizure onset was within
the first 10 years of life in 90% of patients, with focal seizures
being the most prevalent. Focal cortical dysplasia (FCD) was the
most common etiology present in 50% of patients. These children
had normal neuroimaging studies and intractable epilepsy. How-
ever, seizure freedom was achieved following surgical resection
of the epileptogenic zone. Conclusions: We demonstrated that
patients with midline epileptic discharges are associated with
intractable focal seizures and early seizure onset. Despite normal
neuroimaging reports, FCD was the most common pathology.
Thus our study suggests early localization and resection of the
epileptogenic zone may be beneficial for achieving seizure freedom in children with this electroclinical syndrome.

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Children with Trisomy 21 and Lennox-Gastaut Syndrome
with predominant myoclonic seizures
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(Vancouver)
doi: 10.1017/cjn.2021.382

Background: Lennox-Gastaut syndrome (LGS) is a severe
form of pediatric epilepsy that is classically defined by a triad of
drug-resistant seizures, characteristic EEG patterns, and intel-
lectual disability. Long-term prognosis is generally poor with
progressive intellectual deterioration and persistent seizures. At
present, there are few reported cases of LGS and Trisomy 21
(T21) in the literature. To further delineate the spectrum of epilepsy in T21, we reviewed children with T21 and LGS at
one center over 28 years. Methods: This is a retrospective case
series. At our institution, all EEG results are entered into a
database, which was queried for patients with T21 from 1992-
2019. Pertinent electro-clinical data was obtained from medical
records. Results: 63 patients with T21 and epilepsy, 6 (10%) had
LGS and were included in the study. Four of the six patients were
male and 5/6, had neuro-imaging, which was normal. Follow-up
ranged from 3-20 years. Notably, 5/6 had predominant myoclonic
seizures throughout the course of their epilepsy, associated with
generalized spike-wave discharges. Conclusions: Myoclonic
seizures appear to be a predominant seizure type in patients with
T21, suggestive that T21 patients may have a unique pattern of
LGS.

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Intravenous lacosamide use in pre-school children
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(Québec)*

Background: Data on intravenous lacosamide use in young
pediatric patients is scarce, especially of pre-school age. Meth-
ods: We retrospectively reviewed the medical records of all
patients less than 6 years old who received intravenous lacosa-
mide at our tertiary pediatric hospital. Data on dose, timing and
order of administration was collected. Clinical and electrographic
response was independently assessed with EEG interpretation
blinded to time of administration. For adverse effects surveil-
ance, heart rate was noted before and 1 hour after dose. Results:
Eleven patients (8 boys), received lacosamide between 2013 and
2018. Mean age was 2 years (11 days – 5.3 years). Medical
indications were: refractory status epilepticus (n=6), repetitive
seizures (n=4), and inability to take oral lacosamide (n=1). On
average, lacosamide was the fifth (1st-8th) IV antiepileptic drug
administered 78 hours (SD 11 hours) after presentation. The most
frequent dose was 5 mg/kg. Clinical response was confirmed in 7
patients, while electrographic response was proven in 3 patients.
Seizure relapse at 24 hours was noted in 6 patients. No brady-
cardia occurred post-lacosamide. Conclusions: Although very
safe, therapeutic response to lacosamide in young pediatric
patients was inconclusive, mostly due to delay in administration,
suboptimal dose, and high number of other IV antiepileptic drugs
previously given.

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Response to the Ketogenic Diet in refractory epileptic spasms
at BC Children’s Hospital
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doi: 10.1017/cjn.2021.384

Background: Epileptic spasms (ES) are a devastating seizure
type with poor neurodevelopmental outcome; 1/3 are resistant to