D.04

Validating StatNet EEG as a reliable and effective tool in the Diagnosis of Non-Convulsive Status Epilepticus after hours

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Background: NCSE dramatically increases morbidity and mortality. It is clinically subtle, which makes it difficult to diagnose without EEG. StatNet EEG provides a quick alternative to conventional EEG, which is often unavailable after hours. *Methods:* Each patient received a StatNet EEG by a neurology resident and a conventional EEG by an EEG technologist. Blinded studies were compared for delay between the studies, setup time, artifact, and abnormality detection using conventional EEG as controls. Nonparametric Mann-Whitney two-sample T-test was used. Results are expressed in mean minutes +/- SD. Kappa score assessed inter-observer reliability. *Results:* 19 patients were collected. Two StatNet EEGs were not interpretable and excluded. The mean delay between studies was 26h53min. Electrode placement is significantly shorter: 13:14±5:24 StatNet EEG vs 18:07±5:35 conventional EEG (p=0.02).

Table 1.
Results: Interobserver Reliability

	Conventional Kappa (SD) N=19	StatNet Kappa (SD) N=17 *2 uninterpretable
Abnormality	0.73 (0.18) CI: 0.37-1.0	0.54 (0.18) CI: 0.19-0.89
Epileptiform Discharges	0.76 (0.16) CI: 0.43-1.0	0.76 (0.22) CI: 0.33-1
NCSE	0.64 (0.32) CI: 0.0031-1.0	1.00 (0) CI: 1.00-1.00
Seizures	1.00 (0) CI 1.00-1.00	1.00 (0) CI: 1.00-1.00
Slowing	0.36 (0.25) CI: 0.14-0.86	0.45 (0.17) CI: 0.11-0.79

Conclusions: There is high inter-rater reliability between the conventional and StatNet EEG groups (table 1) demonstrating that StatNet is a reliable and effective tool, aiding in early recognition and management of NCSE.

D.05

SREDA-like temporal EEG seizure pattern in LGI1-antibody mediated encephalitis

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Background: Leucine-rich glioma inactived-1 (LGI1) antibodies are associated with limbic encephalitis and distinctive seizure types, which are typically immunotherapy-responsive. While non-specific EEG abnormalities are commonly seen, specific EEG characteristics are not currently understood to be useful for suspecting the clinical diagnosis. Based on initial observations in two patients, we analyzed the EEG recordings in a larger series of patients and describe a novel ictal pattern that can suggest the diagnosis of LGI1-antibody mediated encephalitis, even in the absence of common clinical features. *Methods:* Clinical and EEG data were collected in nine patients with LGI1 antibodies. *Results:* Psychiatric and cognitive symptoms were common, as were tonic seizures associated with EEG electrodecremental events (often with the so-called faciobrachial dystonic semiology). A rarity or absence of interictal epileptiform discharges contrasted with frequent subclinical temporal lobe seizures in some patients, which at times showed characteristics similar to subclinical rhythmic electrographic discharges of adults (SREDA), including sensitivity to hyperventilation. *Conclusions:* LGI1-antibody mediated encephalitis may be associated with tonic seizures and corresponding electrodecremental events, as well as an unusual SREDA-like pattern of frequent subclinical temporal lobe seizures, which may be triggered by hyperventilation, all in the setting of rare interictal epileptiform discharges.

D.06

Insular involvement in intractable epilepsy: results of invasive EEG data

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Background: Exploration of the insular cortex is now commonly considered in patients with refractory epilepsy requiring invasive EEG investigations. The safety and yield of routine insular exploration is uncertain. *Methods:* All patients (pediatric and adult) who had invasive EEG (iEEG) with insular depth electrode placement, either through SEEG or open implantation, were reviewed. Ictal insular involvement was characterized as primary, secondary or not involved. Results of insular resections were recorded. *Results:* A total of 173 patients had iEEG of which 26 included insular electrodes (SEEG-18, Open - 8). No complications of placement were identified. Insular involvement was seen in 20 (76%) patients. Primary ictal involvement was identified in 9 (33 %) patients, while secondary spread was noted in 11 (42 %) patients. Six patients went on to have resections including the insular cortex of which 5 patients achieved good seizure control (Engle class I/II). *Conclusions:* Insular depth electrode placement is a safe and effective adjunct to invasive EEG investigations. Ictal involvement of the insular cortex was commonly identified in our series leading to inclusion of the insula in cortical resections with good seizure control, which may not have been considered without iEEG evidence.

D.07

Clinical electromyography training in Canada: The experience of neurology and physiatry residents

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Background: There are currently no national standards for clinical electromyography (EMG) training for residents in neurology and physiatry in Canada. The purpose of this study was to obtain demographic and qualitative data pertaining to EMG residency training