Category :**Brain: other neurologic disease**

A263 - ***Continuous eeg as a neurophysiological tool in a critical care setting***

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Introduction:

The aim of the study was to evaluate the clinical status of comatose ICU patients using continuous Electroencephalography (cEEG) and its association with disease prognosis.

Methods:

This was an observational, prospective study including adult patients in a single Intensive Care Unit (ICU). Patients' demographic characteristics, severity of illness, comorbidities, reason for undertaking EEG, pattern of EEG, management of therapeutic strategies were recorded and were related to the prognosis.

Results:

Data of 55 patients were analyzed (median age 61 years (range 19 - 86), median APACHE II score 22 (range 5 - 38) and median SOFA score 9 (range 4 - 16) at admission. Median duration of mechanical ventilation was 35 days and median ICU length of stay (LOS) was 42 days. The majority of cEEG (61.1%) was performed due to medical reasons (ichaemic stroke, septic shock, status epilepticus); 25.9% of cEEG was conducted in neurosurgical patients (both post traumatic acute brain injury and malignancy) whereas 13% was carried out in post-anoxic comatose patients. Patients who started *anticonvulsant* therapy after EEG examination had higher mortality rate than patients who had already received *anticonvulsant* medications (x^2=8.077, p=0.004). In more than half of the patients Encephalopathic EEG pattern was observed in comparison with a lower percentage of patients who had Lateralized Periodic Discharges (LPDs); one patient had Burst Suppression and one patient had Electrocerebral Inactivity (ECI) or Silence (ECS). Patients with epileptic disorders had higher mortality rate (p=0.018) in comparison with the other categories of patients. Taking their medical comorbidities into consideration, patients diagnosed with diabetes mellitus were more likely to have higher mortality (x^2 =5.115, p=0.045).

Conclusion:

Continuous EEG improves management of patients, could modify therapeutic strategies and appears to be a useful prognostic tool in critical care patients.