

Annual Congress on

**Advancements in Neurology, Neuroscience  
and Pediatric Neurology**

June 18-19, 2018 Rome, Italy

**Electrographic seizures in pediatric systemic cancer patients with acute unexplained encephalopathy (GCS $\leq$ 8 of  $\leq$ 6 hours): Diagnostic role of bedside emergent  $\geq$ 30 minutes EEG**

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**Statement of the Problem:** Systemic pediatric cancer patients are prone to become critically ill and may develop seizures and encephalopathy, which can result in permanent neurologic disability. There are few techniques for monitoring brain functions in these patients, especially in resource-poor settings. The emergent bed-side Electroencephalogram (EEG) can be useful.

**Purpose:** To determine usefulness of emergent bedside EEG features among these patients with unexplained coma (GCS $\leq$ 8) of  $\leq$ 6 hour's duration.

**Methodology & Theoretical Orientation:** Prospective EEG assessment of 40 systemic cancer patients consecutively diagnosed and admitted in neurointensive care units. Patients with brain tumor, brain metastasis, seizures or those with known cause of coma were excluded.

**Findings:** Over a period of 2 year, 40 children; boys 65% and girls 35%, with systemic cancer patients with a median age of 9.8 years were studied. This cohort underwent bed-side EEG of  $\geq$ 30 minutes, which was abnormal in 100% of the records. The most common EEG abnormalities were invariant mixed theta-delta slowing (27.5%), followed by low-amplitude delta pattern plus epileptiform discharges (20%) and there was electrographic evidence of EEG seizures in 17 (42.5%) of the cohort. These electrographic seizures were present in 55.5% of 18 patients with subtle convulsions, whereas were documented only in 20% of the 22 patients without such movements. Electrographic seizures among patients with subtle convulsions responded to anticonvulsant drugs in 75% cases as compared 50% such response among patients without such convulsions.

**Conclusion& Significance:** Seizures are common among critically ill children with systemic cancer. Bed-side EEG record of  $\geq$ 30 minutes is useful in such patients.

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