

CAN AGE AND BEHAVIORAL DISORDERS PREDICT THE NEED FOR SEDATION IN INPATIENT PEDIATRIC SLEEP-DEPRIVED EEG?

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Background: Non-sedated EEG recording in children can be technically challenging, particularly when behavioral disorders are present.

Purpose: To evaluate sleep duration and the occurrence of EEG abnormalities during a non-sedated sleep-deprived EEG in children with behavioral disorders and in young children.

Methods: We retrospectively reviewed the EEG recordings and computerized medical records of all pediatric inpatients at least 2-month-old that had a sleep-deprived EEG during a 5-year period between 2009 and 2014.

Results: We present the data of 261 children, 142 (54%) boys, mean age 7.9±4.9 years, 67 (26%) aged 0.5 to 4 years. Behavioral disorders were reported in 38 (15%) of the patients. Mean recording duration was 50.8±12.5 minutes, and mean sleep duration- 31.8±15.2 minutes. Thirty-seven (14%) patients slept less than 15 minutes during the EEG, including 19 (7%) patients with no sleep during the recording. Sleep duration and the presence of interictal epileptiform discharges did not significantly differ between children with/without behavioral disorders and in those younger/older than 4 years. Patients that did not fall asleep during the EEG did not differ from the others regarding presence of behavioral disorders or age.

Conclusions: These results suggest that non-sedated sleep-deprived EEG is feasible and informative in young children and in those with behavioral disorders. Further studies are needed in order to better characterize the etiologies of sleepless pediatric sleep-deprived EEG recordings.