Migrainous post-ictal headache in patients with localization-related epilepsy: A multi-institutional study

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Purpose: Migrainous features often characterize the headache that follows epileptic seizure (post-ictal headache, PIH). It has been postulated that migrainous PIH and migraine have underlying mechanisms in common, but the mechanisms themselves have not been clarified. We conducted a study comparing patients with various types of localization-related epilepsy to help identify some of these common factors. Methods: Subjects comprised 364 patients who were being treated at one of seven epilepsy clinics in Japan. Epilepsy types were temporal lobe epilepsy (TLE, n=177), frontal lobe epilepsy (FLE, n=116), and occipital lobe epilepsy (OLE, n=71). Patients participated in a structured interview pertaining to PIH as well as interictal headache and family history of migraine. Headaches were classified according to the International Headache Society criteria. We investigated association between migrainous PIH and particular clinical factors of epilepsy. Results: One hundred and forty-seven patients (40%) had PIH. Of these, 38 (26%) had migrainous PIH. Migrainous PIH occurred significantly more often in cases of TLE and OLE than in cases of FLE. In addition, the incidence of interictal migraine headache was significantly higher in patients with migrainous PIH. Conclusions: The occurrence of migrainous PIH was significantly related to particular regions of epileptogenic focus. OLE was strongly associated with migrainous PIH, suggesting that cortical spreading depression may play a role in the pathophysiology of migrainous PIH. The relation between interictal migraine and migrainous PIH suggests that susceptibility to migraine headache predisposes to migrainous PIH

Nocturnal but not diurnal seizures disrupt slow-wave sleep and REM sleep in a patient with complex partial status epilepticus.

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Objective: Recent study indicated that brief complex partial seizures of temporal lobe origin, even when occurring during the day, disrupt sleep at the night of seizure. Complex partial status epilepticus (CPSE) is a rare condition and its relation to sleep-waking cycle has not been well studied. Methods: 3 patients with CPSE underwent all-night polysomnography. In all patients, seizures lasting 30-60 minutes occurred at daily to weekly intervals, and ictal and interictal EEG suggested the origin of seizures in unilateral frontal lobe. Sleep structures were compared during seizure and control conditions. Results: In Case 1, polysomnography was conducted for 7 non-successive nights. Repeatedly occurring nocturnal seizures reduced sleep efficiency from 87.1% ± 5.8% (control recording: n=3) to 59.3% ± 10.7% (seizure recording: n=3) and REM sleep from 15.1% ± 1.4% to 9.9% ± 1.2%, or even totally deprived sleep (n=1). Diurnal seizures had little effect on sleep at the night of seizure. Polysomnography was conducted only once in Cases 2 and 3. Both patients had diurnal seizures while Case 2 also had a nocturnal seizure of 20-minute duration. Sleep efficiency and %REM sleep were 87% and 7.7% in Case 2, and 94% and 21.1% in Case 3, respectively. Conclusions: The fact that nocturnal but not diurnal seizures decrease REM sleep indicates a short-lived suppressive effect of seizures on REM sleep in CPSE patients. However, repeatedly occurring nocturnal seizures disrupt both slow-wave sleep and REM sleep, and may affect general activities the next day.