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SEIZURE DISORDERS

DACRYSTIC SEIZURES: A MULTICENTER VIDEO-EEG STUDY

Researchers at Children's Hospital, Boston; Boston University; Mayo Clinic, Jacksonville, FL; Northwestern University, Chicago; and the Cleveland Clinic in the USA; and centers in Germany and Spain studied the frequency of dacrystic seizures (DS) identified in video-EEG long-term monitoring units and the relationship of their clinical presentation to the underlying pathophysiology and etiology. Nine patients (5 male, 4 female) with DS were identified and included 1) stereotyped lacrimation, sobbing, grimacing, yelling, or sad facial expression; 2) long-term video-EEG recordings (at least 12 hrs.); and 3) at least one brain MRI study. Age at onset of seizures ranged from 0.08 – 70 years (mean 14.9 years). DS were identified in 0.06-0.53% of patients admitted for long-term video-EEG. DS occurred alone in only 1 patient; they were accompanied by gelastic seizures in 5 cases, and generalized tonic-clonic seizures in 5. Hypothalamic hamartoma was diagnosed in the 5 patients with DC and gelastic seizures. Left mesial temporal sclerosis was the etiology for 3 of the 4 patients with DC without gelastic seizures; and frontal glioblastoma was the underlying pathology in 1 patient.

Seizures were generally refractory to medication; at least 3 different AEDs were tried and only 2 of 9 patients responded. Six patients were considered for surgery and 3 underwent a surgical/radiosurgical or radioablative procedure that was successful in 1 who remains seizure-free after 3 years. (Blumberg J, Fernandez IS, Vendrame M, et al. Dacrystic seizures: demographic, semiologic, and etiologic insights from a multicenter study in long-term video-EEG monitoring units. *Epilepsia* 2012 Oct;53(10):1810-1819). (Respond: Dr Tobias Loddenkemper, Division of Epilepsy and Clinical Neurophysiology, Fegan 9, Children's Hospital Boston, 300 Longwood Ave, Boston, MA 02115. E-mail: tobias.loddenkemper@childrens.harvard.edu).

COMMENT. The term "dacrystic epilepsy," from the Greek *dakryon*, tear, was

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proposed in 1976 (Offen ML, et al. **J Neurol Neurosurg Psychiatry** 1976 Sep;39(9):829-34). Hypothalamic hamartoma is the most likely cause when dacrystic seizures (DC) are accompanied by gelastic epilepsy. When DS occur alone, the lesion is commonly in the temporal lobe cortex. DS are refractory to treatment with AEDs and frequently require surgery for removal of a structural lesion. Whereas involuntary laughter is an accepted expression of epilepsy, especially as a symptom of hypothalamic hamartoma, involuntary crying is a relatively rare form of epilepsy. The current article adds to the sparse literature suggesting that DS are symptomatic of structural brain lesions, and demonstrates that patients with DS without gelastic epilepsy frequently present with mesial temporal sclerosis. Symptoms leading to the diagnosis of a hypothalamic-pituitary or temporal lobe lesion are usually neurological, including increased intracranial pressure and seizures. Endocrine symptoms (changes in weight, height, puberty, or diabetes insipidus) and their occurrence prior to the onset of neurologic symptoms may help to diagnose the hypothalamic-pituitary lesions earlier than the appearance of gelastic seizures (Taylor M, et al. **J Pediatr** 2012 Nov;161(5):855-863.e3; see **Pediatr Neurol Briefs** 2012 Dec;26(12):95-96).

UTILITY OF SHORT-TERM VIDEO-EEG MONITORING

Researchers at Monash University Medical Center, Melbourne, Australia evaluated the yield and clinical utility of outpatient, short-term video-EEG monitoring (OVEM) as a diagnostic tool in routine clinical practice. Of a total of 175 patients with records examined retrospectively, 111 were female and 64 male, with an age-range of 16-87 years (mean 36 years). Mean length of recording was 3.8 hrs (range 1-6.8 hrs). Pre-test frequencies of clinical events were <1 per week (30.1%), 2-6 per week (48.7%), and >7 per week (21.2%). Focal slowing occurred in 24 recordings (13.7%) and background and generalized slowing in 18 (10.3%). Interictal epileptiform discharges (IED) were focal in 15 (8.6%) and generalized in the same frequency. Epileptic seizures were captured in 12 patients (6.9%). Psychogenic nonepileptic seizures (PNES) occurred in 65 (37.1%) patients. The diagnostic yield for PNES was 37.1%, for IED 17.2%, and for epileptic seizures 6.9%. Before OVEM, a provisional diagnosis of epilepsy was made in 136 (77.7%) patients; after OVEM, the diagnosis of epilepsy was changed to PNES in 28.6%, and from PNES to epilepsy in 2.3%. OVEM has a higher yield for PNES than epileptic seizures and IED. The yield of PNES was >5 times that of epileptic seizures, and diagnosis was changed from epilepsy to PNES in > one-fourth of patients. (Seneviratne U, Rahman Z, et al. The yield and clinical utility of outpatient short-term video-electroencephalographic monitoring: A five-year retrospective study. **Epilepsy Behav** 2012 Nov;25(3):303-6). (Respond: Dr Udaya Seneviratne, Dept. of Neuroscience, Monash Medical Centre, Australia. E-mail: udaya.seneviratne@monash.edu).

COMMENT. Outpatient short-term VEM changes the pre-test diagnosis in 30.9% of patients. It is a useful diagnostic test for PNES and has a higher yield for PNES than epilepsy. OVEM is relatively cheaper than inpatient long-term VEM, but the shorter recording duration may miss some patients with epileptic seizures. OVEM is considered in the diagnostic work-up of suspected PNES prior to an inpatient long-term VEM.