A Rare Reflex Epilepsy: Bathing-Related Epilepsy

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Dear Editor,

Bathing-related epilepsy (BRE), which is also known as water immersion epilepsy, is a rare, benign, reflex epilepsy. It presents with focal seizures that occur during bathing with hot water and has a favorable prognosis (1). The exact mechanism underlying these seizures is unknown (1). This epilepsy is frequently confused with hot water epilepsy (HWE) and is generally seen during childhood and in males (2,3). The most common seizure type is partial complex, and the seizures are often non-convulsive and autonomic (4).

A 24-year-old male was admitted to our clinic due to seizures that occur while bathing with warm water since early childhood. These seizures start approximately 10 min after contact with water in the bathroom. Frequent and difficult breathing are the initial symptoms, followed by paleness, teeth squeezing, and purple discoloration of the lips, which last for 1-2 min. The patient becomes irritable before seizure and anticipates seizure. Consciousness becomes blurred, oral automatisms initiates, and seizures ends with a sleeping period. This state of blurred consciousness lasts for approximately 2 h. The patient's seizures are partial complex and start with an aura pre-senting with irritability and absenteeism and end with blurred consciousness. His relatives reported that incontinence sometimes occurs. He poured water over his head from a plastic can while sitting. He did not have seizures when the water came from a shower. He had seizures 5-6 times a month, and the number of seizures had not changed in years. His medical history was unremarkable. He was born via normal vaginal delivery, and he did not have convulsions or any significant disease as a newborn. He was the third child in a family of three children, and his parents were second-degree relatives. Results of systemic and neurological examinations as well as hemogram, biochemistry tests, urine analysis, and cranial magnetic resonance imaging (MRI) were normal. Electrocardiography showed normal QT interval with sinus rhythm. Electroencephalography (EEG) was performed three times using the standard 10-20 system. It was rhythmic with an 8-9-Hz alpha rhythm, and no abnormalities were found. Psychiatric interview to exclude somatization and cardiologic examination to evaluate syncope were normal.

Bathing-related epilepsy was diagnosed after somatoform disorder and syncope diagnoses were excluded. Seizures in this case were accepted as partial complex and sodium valproate was initiated at a dose of 10 mg/kg. Control EEG performed 1 month later was normal with the same results as the previous EEG. Patient and his relatives did not report any reflex seizures. The patient gave written consent for the publication of this case report.

Although the exact pathophysiology of HWE is unknown, an abnormal thermoregulation is suspected. When the scalp comes into contact with hot water, a special region of the brain is believed to be stimulated resulting in seizures (2). There are many differences among HWE cases. The body surface area to come in contact with water, its duration, and type of bathing (having a shower or pouring water from head) are important factors (5). MRI and EEG are generally normal in HWE patients (6). Seizures in this case were induced independent of water temperature, which was warm. These seizures are known as BRE, and they have rarely been reported in infants. In a similar case report, Stutchfield and Lah did not note any abnormality in interictal EEG, except a temporal lobe-derived epileptic activity after provocation with water (7). Increased levels of stress before bathing, voice of water, reflecting lights, and induction of pulmonary baroreceptors due to submersion into water were implicated in the pathogenesis of BRE, but no controlled study has been performed because of the paucity of cases (1).

Informed Consent: Written informed consent was obtained from patient who participated in this study.

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