Indian Journal of Pediatrics (September 2021) 88(9):857–858
https://doi.org/10.1007/s12098-021-03840-3

EDITORIAL COMMENTARY

Hot-Water Epilepsy in Children

Ajay Sharma[1] · **Naveen Sankhyan**[1]

Received: 27 May 2021 / Accepted: 3 June 2021 / Published online: 5 July 2021

Seizures precipitated by immersion or bathing in hot water characterize the entity of hot-water epilepsy (HWE) or bathing epilepsy. It is a type of reflex epilepsy. The International League Against Epilepsy (ILAE) defines reflex seizure as a seizure that is constantly elicited by a specific stimulus, which may be an afferent sensory stimulus, or an activity undertaken by the patient [1]. First described in 1945 by Allen, literature on hot-water epilepsy continues to expand with cases reported from the world over [2, 3]. Many reports of HWE have emerged from Southern India, including the largest cohort of 279 patients of HWE [4].

Although HWE has been reported in adults, children are more commonly affected. Affected infants have often been described as becoming limp, cyanosed, or apneic with or without motor phenomena on pouring warm water over the head or body [2, 5]. Seizures usually have focal onset with impaired awareness and last for 30 s to 3 min. Seizures in HWE can manifest in the beginning or towards the end of the bath. In patients with HWE, spontaneous nonreflex epilepsy and febrile seizures have also been reported in a significant proportion [2]. Intermittent clobazam administered 45 to 60 min before bath and using lukewarm water for bathing have been reported as effective management strategies [3, 4].

Bharathi et al., in their study published in this issue, describe various characteristics of 68 children with HWE [6]. As reported in earlier studies, they too found its highest prevalence amongst 1–5 y olds and with a male predominance [4]. Their study has highlighted a few important points relevant for practice; firstly, about one-third of the children diagnosed with HWE can have unprovoked seizures. Secondly, most children with HWE do not have neurodevelopmental problems or any abnormalities on neuroimaging, thus suggesting that neuroimaging can be deferred in resource-poor settings if the clinician is certain of the diagnosis. Thirdly, intermittent clobazam and reduction in water temperature seem highly effective interventions in HWE; so, the use of continuous antiseizure drugs can be avoided. Finally, most children with HWE have a satisfactory outcome, and this fact should be highlighted during parental counseling to alleviate anxiety. Although, the practice of bathing children with hot water is quite prevalent in various hilly states of northern India, cases of HWE are mainly reported from the South. It appears that genetic makeup, environmental factors, and exposures may play a part in the causation of HWE. These could be areas worth exploring in future studies.

There are certain limitations of the study by Bharathi et al.. The authors have not described the detailed clinical semiology of episodes in infants and younger children. Ictal events in infants are often confused with other phenomenon, such as breath holding, shuddering, apnea, or cyanotic spells. A more detailed account of semiology based on age groups would have helped readers get more insight into this disorder. A more objective description of treatment response or failure would have added value to the report. Finally, loss of data and a lack of accuracy of recorded features are inevitable in a study with a retrospective component. Nevertheless, we commend the authors for conducting this study as an exclusive report on HWE in a pediatric cohort. It has furthered our understanding of various aspects of this reflex epilepsy and brought forth new questions too.

Declarations

Conflict of Interest None.

References

1. Reflex Epilepsies.In: Epilepsydiagnosis.org. 2021. Available at: https://www.epilepsydiagnosis.org/syndrome/reflex-epilepsies-overview.html. Accessed on 23 May 2021.

✉ Naveen Sankhyan
drnsankhyan@yahoo.co.in

[1] Pediatric Neurology Unit, Department of Pediatrics, Advanced Pediatrics Center, Post Graduate Institute of Medical Education and Research, Chandigarh 160012, India

2. Satishchandra P. Hot-water epilepsy. Epilepsia. 2003;44(Suppl 1):29–32.
3. Meghana A, Sinha S, Sathyaprabha TN, Subbakrishna DK, Satishchandra P. Hot water epilepsy clinical profile and treatment- a prospective study. Epilepsy Res. 2012;102:160–6.
4. Satishchandra P, Shivaramakrishna A, Kaliaperumal VG, Schoenberg BS. Hot-water epilepsy: a variant of reflex epilepsy in southern India. Epilepsia. 1988;29:52–6.
5. Nechay A, Stephenson JB. Bath-induced paroxysmal disorders in infancy. Eur J Paediatr Neurol. 2009;13:203–8.
6. Bharathi NK, Shivappa SK, Gowda VK, Shivalingaiah S, Benakappa A. Clinical, demographic, and electroencephalographic–profile of hot-water epilepsy in children. Indian J Pediatr. 2021. https://doi.org/10.1007/s12098-020-03570-y.