Hot-bath epilepsy

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Summary: Immersion in hot baths is an infrequently recognized cause of reflex epilepsy. Two such cases are described. Increased awareness of unusual forms of reflex epilepsy is necessary as this may have important prognostic and therapeutic implications.

Introduction

Epileptic seizures precipitated by sensory stimuli ('reflex epilepsy') are well recognized. Sensory stimuli known to cause this vary from the well recognized, such as photic or auditory stimulation, to the rare, such as gastric distension.¹ Hot water is another sensory stimulus that can provoke seizures. Hot water epilepsy is the commonest form of reflex epilepsy in parts of India² from where large series have been reported. Only sporadic reports are found in the Western publications.^{3,4} Most instances of hot water epilepsy have commenced in childhood. We report two patients with this complaint, one of whom was particularly unusual in being 30 years old at the time of his first recognized seizure.

Case reports

Case 1

A 34 year old man gave a 4-year history of six episodes of loss of consciousness which had occurred without any warning before any of them and all whilst taking a hot bath. Two were witnessed by a friend who described a generalized seizure with tonic and clonic phases and during two attacks he had bitten his tongue. There was no past or family history of epilepsy. Neurological examination and an electroencephalogram were normal. A diagnosis of probable 'reflex epilepsy' was made and he was advised to avoid hot baths. During 18 months of follow-up he has not had any further seizures.

Case 2

A 17 year old girl had had eight epileptic seizures from the age of 14. She continued to have seizures despite

treatment with sodium valproate and was referred to hospital. There was no warning before any of the attacks, several of which had been witnessed by her parents. All had occurred immediately after entering a hot bath, were generalized with tonic and clonic phases and were followed by a short post-ictal confusional state and sleepiness. There was no past or family history of seizures. Neurological examination and an electroencephalogram were normal. As she had already stopped taking the sodium valproate and as a specific sensory stimulus had been identified as precipitating all her attacks, anticonvulsant therapy was not recommenced and she was advised to avoid hot baths. So far she has not had any more seizures.

Discussion

The immediate precipitant that determines the timing of seizures in most patients with epilepsy is unknown. Therefore finding such precipitants in 'reflex epilepsy' is both academically intriguing and of practical value as avoiding the stimulus may be a more effective treatment than anticonvulsant medication which seems to be the case with our patients. Avoidance of the precipitant seems especially important in this circumstance as there must be real risk of death by drowning.⁵

Rises in body temperature in febrile illnesses in childhood are associated with convulsions and breakdown of seizure control may occur in epileptic adults during intercurrent pyrexial illnesses. Such rises in body temperature are unlikely to be important in precipitating hot-water epilepsy for two reasons. Firstly a history of febrile convulsions is no commoner in patients with hot-water epilepsy than in patients with all forms of epilepsy³ and secondly the attacks occur rapidly after immersion in hot water, suggesting that skin stimulation is responsible for precipitating an attack rather than any changes in core temperature.

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The relative rarity of this disorder presenting in adult life may partly result from fewer witnessed accounts of adults' bathtime activities. Some confusion with vasovagal syncope following hot baths may also arise. However, vasovagal attacks during hot baths usually occur on standing up after prolonged

exposure to the heat of the bath.

When it occurs in childhood, this form of reflex epilepsy is said to have a good prognosis with the disorder usually resolving spontaneously in less than 6 years.^{2,3} Whether our patients will prove to have a self-limiting disorder remains to be seen.

References

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