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A thorough clinical examination and a detailed history are vital to ensure prompt support of children presenting with febrile seizures.

Complex febrile seizures in children

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Febrile seizures occur in infancy and childhood. They usually happen between the ages of six months and five years. These seizures are associated with a fever, but without evidence of intracranial infection or a previously defined cause, such as known epilepsy (Mewasingh, 2010).

Febrile seizures are generally divided into two types—simple and complex. They affect all ethnic groups, but happen more frequently in some. They occur in 6-9% of Japanese children, 5-10% of Indian children and 2-5% of children in the US and Western Europe (Mewasingh, 2010; Waruiru and Appleton, 2004).

Simple febrile seizures are characterised by generalised tonic-clonic seizures without any focal features, such as a seizure in only one side of the body. They resolve spontaneously in less than 15 minutes and do not recur in the next 24 hours (Mewasingh, 2010; Waruiru and Appleton, 2004).

A complex febrile seizure generally lasts longer than 15 minutes, has focal symptoms and may recur within 24 hours. It can sometimes develop into febrile status epilepticus. Anticonvulsant medications such as diazepam and lorazepam may be necessary to stop complex febrile seizures (Mewasingh, 2010).

Patient history

A formerly healthy Afro-Caribbean boy aged four-and-a-half years presented with a sudden-onset right-sided tonic-clonic seizure. He was unresponsive throughout the episode and his head deviated to the right.

An ambulance was called, but the seizure stopped within 20 minutes without anticonvulsant medicine. He remained sleepy for 10 minutes after the seizures stopped. Initial observations in the emergency department showed his temperature was 37.8°C; this rose to 38.8°C in the next 15 minutes. His pulse rate was 136bpm and his respiratory rate was 28/min, with saturations of 95% in air and a central capillary refill time of two seconds.

As well as conducting a thorough clinical examination, it is important to take a detailed history about the nature and duration of the seizure, previous developmental delay, and any neurological conditions already diagnosed or under investigation. The history should include any family history of febrile seizures, epilepsy and sudden death (Waruiru and Appleton, 2004). This helps health professionals decide whether the episode was a febrile seizure and not the first manifestation of a seizure disorder. Children who have had a complex febrile seizure will have this recorded in their history and may need further investigations.

The boy was unsettled during the examination. He had a left-sided red and dull tympanic membrane. The rest of the examination was normal, with no evidence of meningitis or neurocutaneous markers, such as an ashleaf rash (Waruiru and Appleton, 2004).

The diagnosis was of a complex febrile seizure because it had lasted for more than 15 minutes and right-sided focal features during the episode. The focus for the fever was felt to be the left-sided otitis media; blood tests were organised to rule out sepsis (Royal College of Nursing, 2008).

Ongoing management

The boy was admitted to the high-dependency area in the children's ward for continuous monitoring. His blood inflammatory markers showed a white cell count of 8.3/mm³ and a C-reactive protein level of 4mg/L. Oral co-amoxiclav was started for the otitis media.

He remained stable and seizure free for the next 24-hours, and was discharged home to complete a seven-day course of oral co-amoxiclav. His parents were advised to monitor him at home for the next few days and seek medical help if febrile seizures recurred.

The parents were given advice and a leaflet on managing febrile seizures. It is vital to inform parents that one-third of children will have further febrile seizures. They were told that antipyretics such as paracetamol do not prevent febrile convulsions (RCN, 2008; National Institute for Health and Clinical Excellence, 2007).

Progress

As the boy had experienced a complex febrile seizure, an outpatient EEG was organised. This did not show any epileptiform activities (Waruiru and Appleton, 2004).

An MRI scan was carried out to rule out any underlying static or progressive brain abnormality; this did not show any structural abnormality (Waruiru and Appleton, 2004). The boy was reported to be doing well at clinic follow-ups and there were no concerns reported about his development.

Conclusion

This case illustrates why it is important to be aware of the atypical features of febrile seizures and why it is vital to take a detailed history and conduct a thorough clinical examination. Long-term follow-up may be necessary in such cases. NT

References