

A case of febrile seizure.....

Presenting complaints

1-year-old boy was brought to the paediatric office presenting with fever. A day before the mother reported that the child's temperature was 102°F at 8 AM for which she had administered paracetamol. The fever came down to normal after which the child was fed with milk. Next day at 4 AM the child again had an elevated temperature of 104°F, which slowly decreased with administration of paracetamol until it reached 99.4°F at 8 AM and was stable till 4 PM. He was eating well and playful. At 4 PM the child's temperature again elevated and the mother observed an event during which the child had symmetric stiffening of his upper and lower extremities, abnormal eye movements described as "rolling back," bluish discoloration around the mouth, and unresponsiveness. This event reportedly lasted for a minute, after which he appeared "drowsy" for the next 10 minutes. Due to this event the child's parents were very apprehensive and worried about him; and immediately brought him to the paediatrician.

Past history

The baby was born through caesarian delivery without any complications, was breast fed for 6 months and had normal milestones. Since both his parents were working, the child was left in the day care attendance. There was no history of any other chronic illness or antibiotic use in the recent past, as well as no history of febrile seizure in the family. He had received all immunizations consistent with the recommended childhood immunization schedule.

On examination

- The child was playful and smiled responsively.
- Body temperature was 102.6°F, blood pressure – 94/57 mmHg, blood glucose – 120 mg/dL, heart rate - 187 beats/min, respiratory rate - 42 breaths/min, oxygen saturation - 98% in room air
- Heart examination was normal without murmur with good perfusion, femoral pulses were 2+ bilaterally
- Lungs were clear to auscultation with no respiratory distress
- Skin was normal without rashes or lesions
- No swelling, erythema, or pain with movement of joints
- Oropharynx was clear, nares had mild, clear rhinorrhea, and tympanic membranes were without opacity, bulging, or erythema.
- The child was alert and interactive, following objects and moving his neck without signs of pain or irritation.
- His anterior fontanel was open and flat, extraocular movements were intact, pupils were round and reactive to light, and cranial nerves II–XII were grossly intact.

Laboratory investigations

- Complete blood count: Normal
- Electrolytes: Normal
- Urine examination: Normal
- Lumbar puncture: Negative for bacteremia

- Kernig (occurrence of pain when the leg is bent at the hip and knee at 90° angles and extended subsequently) and Brudzinski (involuntary lifting of the legs when lifting a patient's head off) signs were negative.
- He displayed withdrawal and localization to touch. He reached for objects with a pincer grasp, was able to sit alone, and was able to take a few steps.
- There was no occurrence of another seizure episode in the next 24 hours on observation.

Clinical diagnosis

Generalized simple febrile seizures lasting <15 minutes without focal signs.

Management

The child was administered acetaminophen to treat the fever and sent home. His parents were advised to continue feeding him normal diet particularly with fluids, avoid excessive clothing and apply tepid sponge bath or give paracetamol or ibuprofen syrup every 6 hours till the fever is controlled; and were asked to come with the child for follow-up next day evening.

Follow-up

During the follow-up examination the child was completely normal with no fever. His parents were assured and counseled that there is no risk of death or brain damage due to febrile seizures. In addition, they were educated about the risk of having a recurrent febrile seizure even in absence of fever. If a seizure occurs again, diazepam gel (0.5 mg/kg) can be applied in the rectum to stop and prevent seizures for the next 12 hrs and the child should be brought to the pediatrician.

Discussion

Febrile seizures are convulsions that occur in children between six months and six years of age and who have a temperature >100.4°F. They are of two types: Simple—last for <15 minutes, occur once in a 24-hr period, without focal findings and persistent deficits after the seizure; and Complex—last for >15 minutes, occur more than once in a 24-hr period, with focal neurological abnormalities present during the postictal period. Children <18 months of age should be evaluated for signs of bacterial meningitis and should undergo lumbar puncture to exclude the diagnosis of meningitis. The evaluation of the child should include careful history of the risk factors such as day care attendance, developmental delay and having a first- or second-degree relative with a history of febrile seizure and physical examination to exclude the other important causes such as bacterial (meningitis) or viral infections (human herpesvirus-6 [roseola] disease). All children <18 months of age presenting with febrile seizures should be evaluated for signs of bacterial meningitis and should undergo lumbar puncture to exclude the diagnosis of meningitis. The only treatment of choice is to control fever with antipyretics, tepid sponge bath, and avoiding excessive clothing. Although simple febrile seizures do not cause lasting harm, the child is at 30-35% risk of having additional recurrent febrile seizure with most recurrences occurring within a year to the child. Anticonvulsants are not indicated for prophylactic treatment of febrile seizures. If a seizure recurs, rectal diazepam gel 0.5 mg/kg is recommended to stop the seizure and prevent recurrence over 12 hr.