

Febrile Seizures in Pediatrics

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Seizure during fever is termed as 'Febrile seizure'. It is one of the most quotidian neurological disorders observed among the pediatric age group especially in children from 6 to 60 months. According to studies, 0.04 percent of children worldwide will experience a febrile seizure at least once during their childhood [1]. Febrile seizures are defined by the International League Against Epilepsy (ILAE) as episodes that occur in infancy or youth and are characterised by temperatures above 38°C without any signs of acute electrolyte imbalances in the CNS illness or history. A kid suffering from febrile seizures frequently loses consciousness, tremors and moves his or her limbs rigidly on both sides of the body. The majority of febrile seizures happen on the first day of a kid's feverish condition [2].

The root cause for these unpredictable seizure events is unknown, but the most important factors found to be associated in seizure generation are high grade fever, epilepsy, injury on head, overuse of drugs, poisoning, hypoglycemia, respiratory infections, urinary tract infections, hypocalcaemia, gastroenteritis etc. [3-5]. A link involving seizure and bacterial sickness is well-established [6,7]. Fevers that cause febrile seizures are caused primarily by a viral infection, with bacterial infections occurring less frequently. The influenza virus and the roseola (sixth disease) virus, both of which are usually accompanied by high fevers, appear to be the most frequently connected with febrile episodes. Common viruses found to be involved in febrile seizures include influenza (17.6% cases), adenovirus (6.8% cases), parainfluenza (6% cases), human respiratory syncytial virus, HRSV (2.7% cases) and rotavirus (1.3%).

Although febrile convulsions are not very harmful because they have no long-term consequences, but it may cause significant anxiety and concern for families [8]. It has been observed that approximately 33% of children who have had a febrile seizure will have another febrile seizure, but only 2% of children who have had a febrile seizure will develop real epilepsy [9]. Febrile seizures are most common within 24 hours of the onset of a mild fever and can be the first indication that a child is sick. Throughout a febrile convulsion (body temperature above than 100.4°F), a child shakes its body all over and loses consciousness. Many times a child's body can stiffen or twitch in only one location, and sometimes a child will demonstrate lock jaw. On the criteria of the duration of the seizure and its re-occurrence, febrile seizures may be classed as simple or complex. The most frequent variety is a simple febrile seizure, which can last anywhere from a few seconds to 15 minutes. These seizures normally don't happen again within 24 hours and aren't limited to one portion of the body. Complex febrile seizures, on the other hand, last longer than 15 minutes, can recur more than once within 24 hours, and are limited to one side of your child's body [10]. Simple febrile seizures in children normally go away after the seizure. In contrast, 90% of seizures caused by meningitis are followed by postictal stupor, while the majority of the remaining 10% show other meningitis symptoms including nuchal rigidity. Vaccination throughout childhood can potentially raise the occurrence of febrile convulsions. Vaccines for diphtheria, tetanus and pertussis, and measles-mumps-rubella can cause febrile illness that can lead to seizures [10].

Most febrile seizures go away on their own after a few minutes, but if your child has one or such kind of febrile convulsion, family members has to be patientful, be calm and take the steps below to reduce the risk of further injury [10]:

- Take the patient or kid to a soft or plain surface from where he or she won't get injured.
- Start recording the timing of the seizure duration and symptoms to aid doctors in seizure classification.

- Stay close to your kid to watch and provide comfort to your child, if required.
- Ensure safety of your child by removing sharp objects from the surroundings of kid/child.
- Loosen tight or restrictive clothing.
- If child is showing movements, don't restrain him/her.
- Do not let child eat/drink anything.

An urgent medical intervention is immediately required if the child shows any of the following symptoms [10]:

- A febrile seizure that lasts for more than five minutes.
- If convulsion/FS has ended less than 5 minutes but the patient (kid) is not recovering very soon and the seizure is repeated again and again.

The concern physician (neurologist) may prescribe pharmacologically active medicaments to control a convulsion that ends longer than 5 minutes.

Hospitalization is recommended in following conditions [10]:

- The duration of convulsion/FS is longed.
- The kid is not more than six months old
- The FS/convulsion is accompanied by a severe micro-bacterial infection
- When the source of infection is typical to be determined.

While, admitting in hospital is not required for a simple kind of febrile seizure.

In a nutshell, it is extremely important for parents to closely monitor the child in case of any illness especially in the age group of 6 months to 60 months. Febrile seizures are not too damaging but it affects the child's development and if left avoided or untreated it can lead to severe damage to the brain of child. In cases of negligence, it can lead to epilepsy or any other neuro-disorder which may affect entire life of the child. In most of the developing nations, these febrile seizures are ignored due to lack of knowledge or medical infrastructure and because of which huge population suffers this unpredicted and preventable disorder.

Bibliography

1. Felipe L and Siqueira M. "Febrile seizures: update on diagnosis and management". *Revista da Associacao Medica Brasileira* (1992) 56.4 (2010): 489-492.
2. Oka E., *et al.* "Neuroepidemiological Study of Childhood Epilepsy by Application of International Classification of Epilepsies and Epileptic Syndromes (ILAE, 1989)". *Epilepsia* 36.7 (1995): 658-661.
3. Fenichel GM. "Clinical Pediatric Neurology". Philadelphia: Saunders (1997): 18-19.
4. Shi X., *et al.* "An epidemiological survey of febrile convulsions among pupils in the Wenzhou region". *Zhongguo Dang Dai Er Ke Za Zhi* 14.2 (2012): 128-130.
5. Waruiru C and Appleton R. "Febrile seizures: an update". *Archives of Disease in Childhood* 89.8 (2004): 751-756.
6. Bettis DB and Ater SB. "Febrile seizures: Emergency department diagnosis and treatment". *The Journal of Emergency Medicine* 2.5 (1985): 341-348.
7. Bauchner H., *et al.* "Prevalence of bacteriuria in febrile children". *Pediatric Infectious Disease Journal* 6.3 (1987): 239-242.
8. Lee P and Verrier Jones K. "Urinary tract infection in febrile convulsions". *Archives of Disease in Childhood* 66.11 (1991): 1287-1290.
9. Fukuyama Y., *et al.* "Practical guidelines for physicians in the management of febrile seizures". *Brain and Development* 18.6 (1996): 479-484.
10. <https://www.mayoclinic.org/diseases-conditions/febrile-seizure/symptoms-causes/syc-20372522>.

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