FEBRILE CONVULSIONS

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FEBRILE CONVULSIONS:

What Every Parent Needs to Know

BY DR. J. A. OGENG'O

There is always a first time to any experience. Some of the experiences are easy to forget and repeat exposure is always necessary. For others, one needs a single shot, and it becomes knowledge. It was during one of our geography lessons that Mr Leo had his epileptic fit that sent all of us out of the classroom in all directions - through the windows, because he had fallen near the door. He frothed, urinated and defecated there. We were in form one then. Twenty five years later, the whole 'drama' is still etched on my memory.

The doctor who taught us Paediatrics (baby and child medicine) was comical, and had dramatized convulsions in children, but since he was not a child, it all seemed like another of his scholarstic gimmicks. I witnessed one in the field during our community health outreach activities. Apart from the high temperature, Mueni, three years, was alright, alert and playful. She was playing with my stethoscope. Then suddenly her fingers began to twitch, the eyes began to be pulled to one side. All parts of the body then went into violent abnormal haphazard movements.

I was terrified but when the clinical officer in charge arrived, he did not seem panicky at all. He stuck the thermometer in Mueni's armpit and before he pulled it out, she had relaxed and was sound asleep. "Daktari, I know this child. This is a febrile convulsion. The temperature is 39.8°C," Mr. Nzioka, the Clinical Officer confidently affirmed.

Dr. Ogeng'o: "It is not clear what causes febrile convulsions but perhaps in a familiarly predisposed individual, the high temperature triggers the brain cells to over-fire and drive the muscles into excessive activity"

The term convulsion (seizure, fit) means a violent irregular motion of limb or body due to involuntary contraction of muscles.

Convulsions should be distinguished from epilepsy. Epilepsy is a disease, while convulsions are a symptom.

Epilepsy is the term used to describe a chronic state where convulsions may occur at intervals and is due to a disorder of the control of brain cell electrical discharge.

Febrile convulsions are seizures which occur in children between the age of six months and five years in the presence of high temperature usually above 38°C. They occur in approximately 5% of all children of this age and there is often a strong family history.

Usually, the presentation is typical. The baby/child in this age group develops a fever from whatever cause - malaria, throat infection, urinary tract infection, pneumonia, ear infection, upper airway infection and so on. Before the actual convulsion there is a pattern of unusual behaviour. Older children may have hallucinations of smell, sight or hearing, which the playmate, caretaker or parent may not understand. This is called an **aura.** The child then loses consciousness, falls (over) and becomes stiff. In quick succession they develop jerky violent movements of the arms, legs, head and neck and facial muscles. There is attendant risk of biting the tongue at this time.

The usual timing of the jerks is 1-2 per second. During this jerking phase, the child may lose control (become incontinent) of urine and stool and soil themselves. The fit is usually followed by a period of deep sleep. After this, the child may be confused, forgetful or irritable.

The jerky phase usually lasts only a few minutes. However, in some children, the seizure may be prolonged, lasting twenty minutes or more; or there may be a series of shorter convulsions with failure to regain consciousness between them. This is what is called **status epilepticus.**

It is not clear what causes febrile convulsions but perhaps in a familiarly predisposed individual, the high temperature triggers the brain cells to over-fire and drive the

muscles into excessive activity. The relationship between high temperature (fever) and the convulsion is sometimes not straightforward. The convulsions themselves, particularly if prolonged, produce a temperature due to muscular activity. If however, the fever was in fact present before the convulsions, then the confusion is less likely. But, it is always important for the doctor to consider whether the temperature is the cause or effect of the convulsions.

The other level of confusion arises from the fact that several childhood infections which cause fever, can on their own cause convulsions and these must always be considered. In fact as a Medical Officer in ternship in Kisumu, I was trained to always test for **malaria** and **meningitis** in all convulsing children. Accordingly, not all convulsions in a child with fever are febrile convulsions. Indeed, convulsions may be due to a large number of brain insults such as:

- Birth injury in difficult deliveries
- Brain infections such as meningitis and encephalitis, typhoid, cerebral malaria
- Abnormalities of sugar levels such as in diabetes mellitus may occur
- Brain injury, for example, following accidental falls, blows road traffic accidents etc.
- Birth defects of the brain
- Rapture and/or occlusion of the blood vessels supplying the brain
- Cancerous and non-cancerous tumours (swellings/masses) of the brain
- Abnormal breakdown products of brain function

The vast majority of the causes are unknown. Therefore, to make a diagnosis of febrile convulsions, the myriad other causes of convulsions must first be excluded. One must be sure that he is dealing with a convulsion because although the diagnosis of convulsions in children is usually fairly clear from history, sometimes, there may be difficulties. A careful history is the most important method by which to determine the nature of the episode.

Some of the conditions that can be mistaken for a convulsion include faints, breath-holding spells, reflex anoxic seizures, abnormal heart beats, migraines, masturbation, hipteria etc.

That is why you need to present your child to the doctors for examination and with a clear history of the episode for the accurate diagnosis to be made.

Having taken clear a history and done a complete medical examination, the doctor will usually ask for blood, urine and stool tests and often complicated imaging procedures of the brain such as EEG, CT scan, MRI, PET etc, to be able to exclude other causes of convulsions. The parents/guardians should not be tempted to declare some of the tests superfluous simply because a friend of theirs did not go through all of them. Any conscious doctor knows that it is good for the convulsing child.

The first febrile convulsion is a warning sign that all is not well. The outcome following the first episode depends on several factors. There are higher chances of another episode in the following cases:

- Onset of first episode below the age of one year.
- Prolonged single convulsion (more than fifteen minutes).
- Multiple convulsions in one illness with fever.
- Seizure affecting only one side of the body.
- Previous evidence of brain function impairment
- Family history of epilepsy

Otherwise, other children will have about one in ten chances of further febrile convulsions and the risk of non-fever related seizures is less than one in twenty.

Small as the risk may be, epilepsy or any convulsions for that matter is a potentially dangerous thing. The fit could come when the child (or adult) is near fire, on the highway with many fast moving cars, or in the swimming pool. This is how most convulsing/epileptic individuals meet their deaths.

Although febrile convulsions may come and go, eventually getting outgrown, prolonged convulsions (status epilipticus) are known to be potentially damaging to the brain, with the attendant risk of adult non-fever related epilepsy. It is for this reason that all must be done to prevent febrile convulsions. The basic principle in the prevention is the control of fever, especially in children who have had one attack of febrile convulsions, or those whose first degree relative has had a febrile convulsion. The control measures once a temperature is noted include:

- Undressing and fanning the child
- Administration of anti-fever drugs such as calpol, panadol, brufen, aspirin etc.
- Cold water baths etc.

Children with frequent febrile convulsions may need continuous anti-convulsant treatment to avoid the long term complications. All children who fall in the following categories need this convulsive treatment and must take it regularly:

- More than four febrile convulsions per year
- Prolonged episodes of convulsion
- When they occur in the presence of underlying brain abnormality

Continued on page 11

demands are placed on the man. Sometimes a baby is born of the relationship and this makes things more complicated. As the demands from the mistresses continue to weigh heavily on the men, they find themselves unable to satisfy their legitimate families and trouble starts. And even where a man can satisfy both sides, the first wife will be very hostile to any other woman who tries to claim her husband. When the man finally tries to legitimize the relationship with his mistress, hell breaks loose. In most cases, men take radical actions which hurt their families very badly. Children have been known to leave school because their dads can no longer pay school fees for them and all on account of having mistresses.

The other route through which men enter polygamy is by being away from home for a long time. They start love relationships and before long, they are married to the women.

There are cases where men marry other women as a result of their temporary separation from their wives due to misunderstandings. During that period, the man might take another woman and make her his wife.

Whichever route polygamy takes today, it is characterized by venomous hostility and suffering. The results are totally devastating. Families are either broken to accommodate the new wives or where marriages hang on, total war is declared with the man at centre stage. Each woman fights for her rights from the husband and tries to outwit the other. The man is torn to pieces as the women fight, yet none cares that much for him! In many cases where a man has more than one wife, he is worse off than those with none. Instead of receiving care and attention from them, he is depressed by their ruthless demands which he cannot meet. Many are only wives by name. In reality, they do not belong.

When the man dies, often due to frustrations, each woman will be there to prove she was so and so's wife. And burials are postponed for long spells while the warring wives battle it out in court. In the process, ugly details that should never have been exposed are laid bare, sometimes in the local press.

Polygamy in modern times is a heavy rope round one's neck which one tightens until he is dead. Men who enter into polygamy in most cases are deceived by the very things that enslave them and kill them in the end. Very often, a man in his middle age will be attracted to a young girl like the case of Andrew at the beginning of this article and end up taking her for a wife. What follows are children. So the man who is just beginning to enjoy life after educating his children brings himself down to nappies and sleepless nights due to infant cries. By the time he is 70, he still has children in primary school and when he dies, some are still in school. Doesn't this man deserve enjoyment and relaxation at any one time of his life?

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In conclusion, polygamy today is not marriage but a murder of the existing family relationship and suicide for the man who gets involved. It is an unacceptable arrangement that causes suffering to many and should therefore be discouraged. If you are contemplating polygamy, think twice. ❑

From page 6

• A strong first degree family of epilepsy

In conclusion, febrile convulsions are a common problem distinct from epilepsy, that are relatively easy to diagnose. Although the majority of the cases do not need to cause alarm, they could potentially cause epilepsy. The guardians/parents of the victims of febrile convulsions need to take this condition seriously and comply with the doctor's instructions on control of fever and continuous use of anticonvulsive treatment as and when the need arises. Since only the doctor can distinguish febrile convulsions from other types and/or causes of convulsions, take all children who convulse or have a convulsive-like episode to the doctor immediately. We can all contribute to prevent the complications of febrile convulsions. Tell your neighbour about this! ❑