

Managing Febrile Seizures in Children: Identifying Symptoms, Adverse Effects, and the Role of Pharmacists in Prevention and Monitoring

Myle Akshay Kiran

Doctor of Pharmacy (4th Year), Pratista Institute of Pharmaceutical Science, International Research Holder, Durjpally, Chevimala Mandalam, Suryapeta, Canada

Abstract

Keywords:

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To observe the management and treatment of febrile seizures in children that is to prevent the condition from becoming worse and to prevent it from causing other complications. A Perform was designed to collect data related to the patient's treatment . when patients are administration of drugs then we(Doctor of pharmacy) identified new adverse drug reactions like drowsiness, vomiting etc. and also identified new side effects due to antiepileptic drugs in piadiatric patients with seizures like drowsiness, respiratory dystress, irregular respiratory movements, respiratory depression (due to the Increase the dose) and identified new home remedies like cold sponging, Result: Percentage of male patients was greater as compared to females because of genetic factors. Mode of admission in febrile fits was always emergency and not outdoor. Fits was greater in patient's age ranging from 6 months-2years. The most common cause of fever leading to febrile convulsions was respiratory tract infections 40%, 2nd most common being UTI that accounts for 24%, CNS infections being 8% and other causes 24%.Family history was positive in 12% cases only, 88% patients don't have significant family history for febrile fits. Most of the febrile fits were controlled in the emergency department with medications . There was a precise role of pharmacist within the required premises for the regular availability of drugs, but there was a lack of active patient counseling procedure . The present guideline paper addresses the emergency management of generalized febrile seizures age. It replaces the previous statement from previous years. and in- cludes a new treatment algorithm and table of recommended medications, reflecting new evidence and the evolution of clinical practice over the past 15 years. The document focuses on the acute pharmacological management of febrile seizures. , but some issues regarding supportive care, diagnostic approach and treatment of febrile seizures discussed.

I. Introduction

A febrile seizure is a convulsion in a child that may be caused by a spike in body temperature, often from an infection. Your child's having a febrile seizure can be alarming, and the few minutes it lasts can seem like an eternity. Febrile seizures represent a unique response of a child's brain to fever, usually the first day of a fever. Fortunately, they're usually harmless and typically don't indicate an ongoing problem. You can help by keeping your child safe during a febrile seizure and by comforting him or her afterward.. Febrile seizures (FS) are the most common seizure disorder in childhood. Studies from the developed world report 2-5% of all children between the ages of 6 months to 5 years being affected. Although 6 months is considered as the lower age limit by many paediatricians, the definitions on febrile seizures use a lower age limit of 3 months and 1 month RESPECTIVELY.



II. Materials And Methods



The study was conducted to see the management of febrile seizures in children. Case history of 10 patients admitted in Vijaya krishna multi speciality Hospital from (december to January) 2016 2017. were collected and different parameters were observed and entered into a Performa WHICH was designed to collect data related to the patient's symptoms, diagnosis, treatment plan, drugs given and lifestyle modifications . Inclusion Criteria:. Patients with definitive diagnosis of febrile fits, Hospitalized pts. Undergoing medication for treatment and Children of ages between 6 months to 6 years. Exclusion criteria:. Patients With definitive diagnosis of fits other than febrile fits and Patients below 6months and above 6 years of age.

III. New Symptoms

Febrile seizure symptoms can range from mild — staring — to more severe shaking or tightening of the muscles. A child having a febrile seizure may:. Have a fever higher than 100.4 F (38.0 C) Lose CONSCIOUSNESS. Shake or jerk arms and Legs. Breathing difficulty.

(E.g:- apnea, the child may turn bluish in colour). contraction of the muscles of the face, limbs and trunk.. Fever (usually higher than 102 °F).. Illness (upper respiratory tract infections).. In voluntary moaning, crying and (or) passing of urine.. twitching. Vomiting. febrile symptoms may vary. in mild cases, the child eyes may roll (or) his (or) her limbs may become rigid. During a febrile seizure, children are unable to respond (I.e unresponsive) and may lose consciousness. If the child is standing he (or) she will fall. Extreme sleepiness.

IV. New Adverse Effects And Side Effects And Natural Remedies

When patients are administration of drugs then we (Doctor of pharmacy) identified new adverse drug reactions like drowsiness, vomiting etc. and also identified new side effects due to antiepileptic drugs in pediatric patients with seizures like drowsiness, respiratory distress, irregular respiratory movements, respiratory depression (due to the increase the dose) and identified new home remedies like cold sponging, TO DECREASE THE BODY TEMPERATURE.

V. Observing the pediatric patients that who are admitted to the hospital by pediatrician and doctor of pharmacy.

1. FEBRILE SEIZURES IN CHILDRENS BELOW 6 YEARS

NAME: j. Nithin

AGE: -1 YEAR.

SEX:-MALE.

VILLAGE:- Rangingudaemu.IN SURYAPET.

Observation

ID: 8 months girl, fully colostomy) Sudden LOC(level activity).

HPI: Parents report 4 days of symptoms.. She has a history of fatigued, alert, no distress or within normal limits, temp color. Her respiratory, unremarkable. Her neck is normal



immunized CC(:corpus of consciousness) and seizure

fever but no respiratory or GI febrile seizures as a toddler.. O/E: signs of dehydration.. Vitals 37.4, normal capillary refill and abdominal and ENT exams are supple and the neurological exam

VI. Case II

ID: 2 month boy, bottle fed, born 40wks gestational age.

CC: Presents via EMS for a tonic clonic seizure lasting 3min at home.

HPI: well, over of the episode before The fever, or GI apart



Previously lethargic the course day and 1 of vomiting the seizure. parents deny respiratory symptoms from the vomiting episode. Lethargic

O/E: but rousable, HR elevated, Temp 35.1.

PERL, fontanel is soft and non-bulging, neck is supple. The tone and reflexes are normal.

VII. Etiology

A.Causes

A high body temperature causes most febrile seizures.

B.Infection

Usually the fevers that trigger febrile seizures are caused by a viral infection, less commonly by a bacterial infection. Viral infections such as the flu and roseola, which often are accompanied by high fever, appear to be most associated with febrile

C.Post-immunization

The risk of febrile some childhood diphtheria, tetanus and rubella vaccinations. A grade fever after a the vaccination, causes

Infection

febrile seizure can occur accompanies infections, especially also called roseola (or)

Immunization

fever can occur as a side Febrile seizures are complex. Simple febrile type lasts from a few Simple febrile seizures do period and are one part of the body.

This type lasts longer than 15 minutes, occurs more than once within 24 hours or is confined to one side of your child's body. Febrile seizures most often occur within 24 hours of the onset of a fever and can be the first sign that a child is ill



seizure.

seizures

seizures may increase after immunizations, such as the pertussis or measles-mumps-child can develop a low-vaccination. The fever, not the seizure.

as a result of the fever that bacterial,(or) viral human hepesvirus-6.and it is sixth disease.

effect for ceain vaccines, classified as simple or seizures. This more common seconds to 15 minutes. not recur within a 24-hour generalized, not specific to Complex febrile seizures.

VIII. Risk Factors

A family history of febrile seizures increase a child risk of febrile seizures.

Relation Ship Between Seizures &Fever

Febrile seizures also known as convulsions,body spasms (or) shaking occur mainly in children & are caused by fever.. Febrile seizure may occur because a child's developing brain in sensitive to effect the fever,the seizures are more likely to occur with high body temperature,milder fevers. About 2-5% of all children will experience a febrile seizure.Of those who have had a febrile seizures 30-40% experience more seizures.

At 25% of a first degree relative with a history of febrile seizures. The seizure itself is almost always harmless,it does not cause brain damage lead to epilepsy

IX. Investigations

C.B.P.. SERUM ELECTROLYTES.. M.P(VIRAL FEVER). PARASITE (F&V).. CRP (infection).. Temperature chast- 4 hour's.

A family history of febrile seizures increase a child risk of febrile seizures.

X. Treatment

IVF:-isolate-p(125 ml in 6 hours),20 micro/ min.

SYRUP:-flexon/4 ml

CoLD sponge- it
102°C (or) more



Q.I.D.

temperature

INJ:-XoM-xp- 450 mg I.v B.D.(after test dose).

INJ:-AMIKACIN 125mg IV BD

(Stop Milk
seizures).
Im
(0.6ml+2ml)
Dilution

(In presence
Nebulisation
0.5ml+2ml
saline)Q.I.D.

SYRUP

monitoring).
PROGINAL
FEBRILE



feed in presence of

medazolam

(2.6ml SOS)

of seizures; crying
(levoline
normal

catriem(3ml
B.D)(Temperature

DIAGNOSis :-
SEIZURES.

XI. Prescription Prevention Medications (New Side Effects By Taking Anticonvulsants Drugs)

Rarely, prescription anticonvulsant medications are used to try to prevent febrile seizures. However, these medications can have serious side effects that may outweigh any possible benefit. Oral diazepam (Valium), lorazepam intensol, clonazepam (Klonopin) or rectal diazepam (Diastat) may be prescribed for children who are prone to febrile seizures. These medications are typically used to treat seizures that last longer than 10 minutes or if the child has more than one seizure within 24 hours. They are not typically used to prevent febrile seizures.

XII. When To See A Pediatrician Doctors

See your child's doctor as soon as possible after your child's first febrile seizure, even if it lasts only a few seconds. Call an ambulance to take your child to the emergency room if the seizure lasts longer than 10 minutes or is accompanied by:

- Vomiting
- A stiff neck
- Breathing problems
- Extreme sleepiness

XIII. Risk Factors

Factors that increase the risk of having a febrile seizure include:

- Young age. Most febrile seizures occur in children between 6 months and 5 years of age. It's unusual for children younger than 6 months to have a febrile seizure, and it's rare for these seizures to occur after 3 years of age.
- Family history. Some children inherit a family's tendency to have seizures with a fever. Additionally, AS researchers have linked several genes to a susceptibility to febrile seizures

XIV. Recurrent Febrile Seizures Importance

When patients suffering with recurrent seizures we must give FRISIUM - 5tablets of BD to infants. Then it will be prevented

The most common complication is the possibility of more febrile seizures. The risk of recurrence is higher if: Your child's first seizure resulted from a low fever. The period between the start of the fever and the seizure was short. An immediate family member has a history of febrile seizures.. Your child was younger than 15 months at the time of the first febrile seizure. Termination of the seizure and prevention of recurrence

XV. Principles Of Treatment And Monitoring

The major goal of treatment is to stop the seizure and, in doing so, prevent brain injury. In animal models, ischemic and excitotoxic neuronal cell loss starts to occur after 30 min of seizure activity. Seizures that last longer than 5 min to 10 min are at high risk of continuing for at least 30 min, so



early treatment is associated with the best outcome. This is the rationale behind assuming that any child who arrives in the emergency department with acute tonic-clonic generalized convulsions is in early CSE, which should immediately trigger the first-line treatment with benzodiazepines as per the management

XVI. Tests And Diagnosis

Identifying the cause of your child's fever is the first step after a febrile seizure. Simple febrile seizures

To determine the cause of infection, your doctor may recommend:

A blood test

A urine test

A spinal tap (lumbar puncture), to find out if your child has a central nervous system infection, such as meningitis



Complex febrile seizures

For complex febrile seizures, the doctor also may recommend an electroencephalogram (EEG), a test that measures brain activity.

If the seizure involved just one side of the child's body, your doctor may also recommend an MRI to check your child's brain.

XVII. Treatments And Drugs

Most febrile seizures stop on their own within a couple of minutes. If your child has a febrile seizure that lasts more than 10 minutes — or if your child has repeated seizures — call for emergency medical attention. More-serious episodes If the seizure lasts longer than 15 minutes, a doctor may order medication to stop the seizure. If the seizure is prolonged or accompanied by a serious infection or if the source of the infection can't be determined, then the doctor may want your child to stay in the hospital for further observation. But a hospital stay isn't usually necessary for simple febrile seizures.

XVIII. Lifestyle Modifications And Home Remedies

Most febrile seizures occur in the first few hours of a fever, during the initial rise in body temperature. Giving your child medications. Giving your child infants' or children's acetaminophen (Tylenol, others) or ibuprofen (Advil, Motrin, others) at the beginning of fever may make your child more comfortable, but it won't prevent a seizure. Use caution when giving aspirin to children or teenagers. Though aspirin is approved for use in children older than age 3, children and teenagers recovering from chickenpox or flu-like symptoms should never take aspirin. This is because aspirin has been linked to Reye's syndrome, a rare but potentially life-threatening condition, in such children.

XIX. Evaluating A Patient With Febrile Seizures And



Management

The initial evaluation includes exclusion of infection in the CNS. Children should be evaluated carefully bearing in mind the atypical nature of presentation of CNS infection in the very young children. A low threshold for lumbar puncture is recommended if it occurs below the age of 12 months, is a prolonged seizure, has abnormal focal neurological signs, or is a complex febrile seizure. Immediate medical management includes treatment of the seizure if still continuing. Benzodiazepines administered rectally, buccally or nasally are useful for rapid control. However, in a majority they abort spontaneously. Therefore, observation for such over the first 5 minutes is recommended. Tepid sponging or pouring water over the child is not recommended as the lowered core temperature may trigger shivering which may be misinterpreted as continuation of seizure causing unnecessary panic. These same treatment principles can be utilized when managing a recurrence. If the parents are competent, they can be taught how to administer these medications at home for a seizure lasting more than 5 minutes. This will help to reduce the number presenting with prolonged seizures. These rescue medications are specifically indicated for those children who have had an initial prolonged seizure since they are more susceptible to develop recurrences which also may be prolonged.

XX. Patient Counseling To Pediatric Parents About Pediatric Seizures

Safety – place the child in the recovery position and do not place anything in the child mouth

Risk of recurrence is approximately 33% overall with a higher risk in children

- <18 months of age
- temperature < 40.0°C at first convulsion
- <1hr between onset of fever and first seizure
- family history of febrile seizures If they have all 4 of the factors, their risk of recurrence is 70%. If they don't meet any criteria, their risk falls to 20%.

Risk of Epilepsy is approximately 2% after a simple febrile seizure and 5 % after a complex febrile seizure (compared to 1% in the general population)

XXI. Conclusion

Febrile seizures may cause great fear and concern for parents, most febrile seizures produce no lasting effects. Febrile convulsion a frightening event, still it is a benign condition. The goal of treatment is to prevent the condition from becoming worse and to prevent it from causing other complications like choking and to educate parents that how to manage their child at home. During time of seizures parents must follow lifestyle modifications that are placing child on his/her side, giving comfort to child, don't put anything in child mouth and parents must try to time the seizure using watch or a clock. Because they're so alarming, seizures often seem to last longer than they really do. Also try to note which part of your child's body begins to shake first, and look for other signs of illness. This can help your doctor understand the cause of the seizure. In general, most patients with febrile fits are initially treated by lowering temperature and controlling fits because of development of serious after effects prolonged complex febrile fits such as aspiration, trauma, recurrent fits and progression to epilepsy. There is a need for pharmacist intervention in the management of children with febrile seizures and to educate the parents about the importance of initial management done at home.

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