Original Article ISSN (O):2395-2822; ISSN (P):2395-2814

A Clinical Study on Febrile Seizures.

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Received: June 2017
Accepted: July 2017

ABSTRACT

Background: The prevalence of febrile seizures in the Indian population is very less. It has been observed that it is somewhat common in males. It has been found that around 21% of children reported a seizure either before or within one hour of onset of fever, 57% reported between 1 to 24 hours after onset of fever while 22% developed seizure episode more than 24 hours after onset of fever. **Methods:** This study was conducted in Department of Paediatrics in a tertiary care centre. In this present study, 52 Children were with febrile seizures and 930 without febrile seizures. Among the 52 children, 67.3% were male & 32.7% female. Data were recorded & CSF were analyzed in all cases with 12-18 month. **Results:** The prevalence of this study was 5.3%. 52 Children were with febrile seizures and 930 without febrile seizures. Among the 52 children, 67.3% were male & 32.7% female. **Conclusion:** This study concludes that it is recommended that parents of patients with first episode of febrile seizure occurring at an age of one year or below should be appropriately counseled regarding seizure recurrence and measures during seizure activity as well as benign nature of illness; which might reduce parental anxiety during further episodes of febrile seizure.

Keywords: Febrile seizure, Epilepsies, UTI, URTI.

INTRODUCTION

The febrile seizure is the most common type of seizures. It is observed in 2-5% of children aged below five years. Though febrile seizure is accompanied by fever, without a sign of intracranial infection and acute electrolyte imbalance.1 Among neurological problems, seizure disorders are the most frequent disorder. It occurs in childhood.[1] Childhood epilepsies are a heterogeneous group of conditions. It varies in their diagnostic criteria as well as in management. Therefore, it has dramatically different outcomes. A seizure or convulsion can be defined as a paroxysmal, time-limited change in motor activity and behavior due to abnormal electrical activity in the brain. Seizures occur in around 10% of children. So, it is common in the pediatric age group. Among seizures, epilepsy occurs most significantly in children. Epilepsy is a condition in which seizures are triggered recurrently from within the brain. It is considered to be present when two or more unprovoked seizures occur at an interval greater than 24 hours apart. In childhood, the incidence of epilepsy is 3% more than half of the cases. During childhood, febrile seizures are the most common seizure disorder. It is age-dependent and rarely occurs before 9 months and after 5 years of age.

Febrile seizures mostly occur 14 to 18 months of age and the incidence approaches 3 to 4 of young children. It is also found that few children will have the first episode after three years. It has been reported that febrile seizures are genetically determined and have a strong family history of convulsions. Data regarding the incidence of febrile seizures in the Indian population is very less. It has been observed that it is somewhat common in males. It has been found that around 21% of children reported a seizure either before or within one hour of onset of fever, 57% reported between 1 to 24 hours after onset of fever while 22% developed seizure episode more than 24 hours after onset of fever.[2]

Several studies are similar to the incidence and prevalence of febrile seizures. The incidence of febrile seizures is varied on the basis of geographic location. It has been found that in Japan and Guam, the highest incidence of febrile seizures occurred.[3-5] Though Febrile seizures are not considered a form of epilepsy, they can, later on, change in epilepsy. With the present knowledge, it is not possible to find out which child will develop an epileptic seizure after presenting with FS.[6] This review will present an overview of the definition, epidemiology, evaluation, treatment, outcomes and recent researches on FS.

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MATERIALS AND METHODS

Study Area:- This study was conducted in Department of Paediatrics in a tertiary care centre.

Study Population:- In this present study, 52 Children were with febrile seizures and 930 without febrile seizures. Among the 52 children, 67.3% were male & 32.7% female.

Exclusion & Inclusion criteria:- All the cases diagnosis of febrile seizures based on standard definition were included in this study. Cases with prior episodes of afebrile seizures, abnormal neurodevelopment and age below six months and above six years were excluded from the study.

Data Analysis:- Data were analyzed by using Microsoft excel.

RESULTS

In this present study, 52 Children were with febrile seizures and 930 without febrile seizures. Among the 52 children, 67.3% were male & 32.7% female. In the 39 cases simple febrile seizure were observed & 13 cases with complex febrile seizure observed. Generalized tonic clonic seizure was predominant type of seizure (71.1%) followed by generalized tonic seizure (26.9%), Focal seizure (1.9%). Diagnosis in all febrile cases were upper respiratory tract infection (55.7%), Pneumonia (15.3%), Acute gastroenteritis (19.2%), UTI (7.6%) & abscess (1.9%).

Table 1: Distribution of total number of cases with Febrile seizures.

Children	Number	Percentage
With FS	52	5.3%
Without FS	930	94.7%
Total	982	100%

Table 2: Distribution of cases according to gender.

Sex	Number	Percentage
Male	35	67.3%
Female	17	32.7%
Total	52	100%

Table 3: Distribution of cases according to simple & complex FS

Febrile Seizures	Number	Percentage
Simple	39	75%
Complex	13	25%
Total	52	100%

Table 4: Distribution of cases according to types of seizures

Seizure	Number	Percentage
Generalized tonic clonic seizure	37	71.1%
Generalized tonic seizure	14	26.9%
Focal seizure	1	1.9%
Total	52	100%

Table 5: Distribution of cases according to Episode of seizures

Episode of seizure	Number	Percentage
Single episode seizure per febrile episode	41	78.8%
Two episode of seizures per febrile episode	5	9.6%
Three episode of seizures per febrile episode	5	9.6%
Four episode of seizures per febrile episode	1	1.9%
Total	52	100%

Table 6: Frequency of Seizures

Seizure Frequency	Number	Percentage
One	27	51.9%
More than one	25	48.1%
Total	52	100%

Table 7: Etiology of all Febrile cases

Diagnosis	Number	Percentage
URTI	29	55.7%
Pneumonia	8	15.3%
Acute gastroenteritis	10	19.2%
UTI	4	7.6%
Abscess	1	1.9%
Total	52	100%

DISCUSSION

FS had been reported to be a common problem in children and was found in 5.3% of total pediatric admissions. These findings were almost similar to the findings of other studies that showed the frequency from 4.0 to 6.1% of total pediatric admissions.[7-8] Most of the children from this study presented with a single episode of seizure just like other studies.[7,9] It has been found to be more prevalent in less than 20 months of the age group in the present as well as other studies.[10] In the present study, males were found to be more vulnerable to FS just like in other studies.[7,9-12] The present study was hospital-based and this gender bias may be because of health seeking behavior of society for a male child. In the present study, the mean duration of seizure was found to be 4.9 minutes which was almost equivalent to 5 minutes duration of other studies while in a couple of studies,[13] the duration was found to be 8 to 9.5 minutes.[7,9]

The frequency of simple and complex febrile seizures is reported to be 84% to 89% and 11% to 16% respectively.[13-14] On the other hand, a Nepalese Study showed the frequency of simple and complex febrile seizure to be 80% and 20% respectively which was almost similar to the present study.[11] Generalized seizures have been found to be the most common and out of these generalized tonic-clonic seizures were the most prevalent just like in other studies.[10,13]

As per clinical guidelines, Biochemical and hematological investigations along with lumbar puncture (LP) for cerebrospinal fluid (CSF) were carried out.[15] In the children with febrile seizures, the blood counts and serum electrolytes were not reported to be statistically significant.

CONCLUSION

This study concludes that simple febrile seizure was most common type of febrile seizure and febrile seizure predominantly affected children below three years of age. First episode of febrile seizure occurred in majority in the age group of 13 to 24 months age group. Recurrence of febrile seizure was common and was significantly associated with age of first episode at one year or below. Hence it is recommended that parents of patients with first episode of febrile seizure occurring at an age of one year or below should be appropriately counseled regarding seizure recurrence and measures during seizure activity as well as benign nature of illness; which might reduce parental anxiety during further episodes of febrile seizure.

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How to cite this article: Thirupathireddy, Bhaskar. A Clinical Study on Febrile Seizures. Ann. Int. Med. Den. Res. 2017; 3(4):PE23-PE25.

Source of Support: Nil, **Conflict of Interest:** None declared