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Research Article

INCIDENCE OF FEBRILE SEIZURE IN CHILDREN INTOBRUK MEDICAL CENTER/LIBYA 2018

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Abstract

This study, aimed to analyze the incidence of Febrile Seizures in children aged 6 months up to 5 years, in Tobruk Medical Center over the period from January to December 2018 and to assess the relation between Febrile Seizures (FS) and age, Gender and the presence of family history of FS in the involved patients. Total admission was 2999 after excluding of the admissions in NICU. 1718 patients were between age 6 months and 60 months, 171 (5.7%) fulfilled the criteria for febrile seizures. 105 were males (61.4%) and 66 were females (38.6%) representing ratio of 1.6:1 male:female. 155 (90.6%) were with simple Febrile seizure, 16 (9.4%) with complex FS. 128 (74.9%) were with no family history of FS, 38 (22.2%) with positive family history of FS and 5 patients files were not documented for family history. Median age was 21.6 months (1.9 year). 144 (84.2%) cases were due to Upper respiratory tract infection, 13 (7.6%) due to Gastroenteritis and 14 (8.2%) were due to other causes (as Urinary tract infection, leg-cellulitis or Bronchopneumonia). Conclusion: This study determined the incidence of FS using statistic data for patients, the incidence was comparable to that reported for other studies, benign conditions, such as upper respiratory tract infections, are common causes of FS.

Keywords: Seizures, Febrile, Incidence, Recurrence, Tobruk medical center, Libya.



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INTRODUCTION

Febrile seizure is defined as seizures that occur between the age of 6 and 60 months with a temperature of 38°C (100.4°F) or higher (as defined by American Academy of Pediatrics (AAP) 2008), which are not the result of central nervous system infection or any metabolic imbalance, and that occur in the absence of a history of prior afebrile seizures. With a peak incidence in the second year of life [1]. The median age of occurrence is 18-22 months [2]. FS is further classified as simple and complex types, Simple FS is defined as generalized, lasting less than 15 minutes, comprised of generalized tonic and clonic activity without a focal component, and without recurrence within 24 hours or within the same febrile illness (3). Febrile seizures (FS) are the most common seizures in children younger than 5 years, and they reportedly affect 2–5% of the pediatric population [4]. Upper airway viral infections rather than gastrointestinal illnesses are the most common triggering factors [5-6]. The risk of developing epilepsy after a simple FS episode has been reported as 2–4% [7]. The majority of febrile seizures occur within 24 hours of the onset of the fever, Children with complex febrile seizures are at risk of subsequent epilepsy. Approximately 30–40% of children with a febrile seizure will have a recurrence during early childhood [8]. The male-to-female ratio is approximately 1.6 to 1 [8, 9]. Seasonal and diurnal variations in the occurrence of febrile seizures have been observed by investigators in the United States, Finland, and Japan, basically, the majority of febrile seizures occur in the winter months and in the afternoon (10,11). Family and twin studies suggest that genetic factors play an important role. Approximately one-third of children with febrile seizures have a positive family history [12].

AIMS AND OBJECTIVES

We aimed to analyze the incidence of febrile seizures in children aged from 6 months up to 60 months, who hospitalized in Tubrok Medical Center, from January to December 2018, and to assess the relation between FS and age, Gender and the presence of family history of FS in the involved patients.

MATERIALS AND METHOD

Retrospective study done through collection of the data from the Files of admissions of the patients from the statistic office. This included date of

admission, date of discharge, gender, age, family history of FS, the type of FS : simple or complex & the cause of FS.

STATISTICS ANALYSIS

Data were compiled using Microsoft Excel and Categorical variables were analyzed using percentages and Median.

RESULTS

The total admission of patients in Pediatric Ward and PICU in year 2018 was 2999 after excluding of the admissions in NICU. 1718 patients were aged 6 months upto 60 months, 171 (5.7%) fulfilled the criteria for febrile seizures, representing 10% of hospital admission rate for FS per 1000 children aged 6 months upto 60 months. Median age was 21.6 months (1.9 year). In the following Table We noted the following, the percentage of patients according to gender 105 (61.4%) male and 66 (38.6%) female, with ratio of 1.6:1 male:female. 155 (90.6%) was simple FS and 16 (9.4%) was complex FS. 128 (74.9%) with no family history of FS, 38 (22.2%) with presence of family history of FS and 5 patients files were not documented in the family history. 144 (84.2%) cases were due to Upper respiratory tract infection, 13 (7.6%) due to Gastroenteritis and 14 (8.2%) were due to other causes (as Urinary tract infection, leg-cellulitis or Bronchopneumonia).

Table:01

	Number of Children	Percentage %
Gender		
Male	105	61.4
Female	66	38.6
Type of FS		
Simple	155	90.6
Complex	16	9.4
Presence of family History of FS		
Yes	38	22.2

No	128	74.9
Not documented	5	2.9
Causes of Fever		
URTI	144	84.2
GE	13	7.6
Other causes	14	8.2

DISCUSSION

This study found that The total admissions of patients in Pediatric Ward and PICU in year 2018 was 2999 after exclude of the admissions in NICU. 1718 patients were aged 6 months upto 60 months, 171 (5.7%) fulfilled the criteria for febrile seizures which is nearly same to incidence in Paediatric ward Al-Khadra hospital Tripoli 2008 was 6.1% [13]. and in the range of 5-year study in Korean during 2009–2013 found that the annual incidence of FS in children younger than 5 years 3.8% to 8.3% [14]. but less than the incidence in Campus University Teaching Hospital in Lomé Togo was 8.4% during 2013 [15]. In this study the Median age was 21.6 months (1.9 year) & the percentage of patients according to gender 105 (61.4%) male and 66 (38.6%) female, with ratio of 1.6:1 male:female. This result same to another study which carried out in Benghazi Paediatrics Hospital Libya 2016-2017 they found that the majority of cases of FS occurred in the second year of life (13 to <25 months), with the peak age at 18 months and 60% of the cases were males (16) and nearly same to that carried out in Korea 2009-2013 were the incidence rates for FS higher in boys than girls, and the male/female ratio was 1.25:1 with peak at 18 months [14]. and was not the same the results that found in Al-khadra hospital Libya/Tripoli 2007&2008 was equal sex incidence & the peak age between 5-12 months [3]. In our study was 155 (90.6%) simple FS, this result same to that found in Benghazi Paediatrics Hospital Libya 2016-2017, were simple FS reported in 86% of cases (16). and higher than that found in Iran (2008-2015) simple FS was 75.3% [17]. In this study 22.2% of cases have positive family history of FS, this is same that found in Iran 2008-2015 was a family history of febrile seizure in 24.7% [17], but less than that found in Benghazi Paediatrics Hospital Libya 2016-2017 about 48% of cases were found to have a positive family history of FS [16]. In

this study, we have found that the most common cause of FS was upper respiratory tract infection, occurring in 84.2%, this is the same result in the following studies, in Ankara Turkey 2009-2012, the most common fever etiology was upper respiratory tract infection, occurring in 55% cases [18], and in Iran was the upper respiratory infection in 63.9% [17].

CONCLUSION

In this study the incidence of Febrile seizure in Tobruk medical center was same to that reported in other studies (national and international studies), benign conditions, such as upper respiratory tract infections, are common causes of febrile seizure.

ABBREVIATIONS

FS-Febrile seizure

URTI-Upper respiratory tract infection

GE -Gastroenteritis

NICU -Neonatal Intensive Care Unit

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