Indian Journal of Basic and Applied Medical Research; March 2023: Vol.-12, Issue- 2 , P. 99 - 102
DOI: 10.36855/IJBAMR/2022/98215.5580

Original article

Study of clinical profile of children aged 6 months to 12 years presenting with first episode of seizure to tertiary care hospital

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Date of submission: 24 January 2023

Date of Final acceptance: 22 March 2023

Date of Publication: 30 March 2023

Source of support: Nil

Conflict of interest: Nil

Abstract

Introduction: Seizure is an impermanent occurrence of signs and symptoms due to abnormal and excessive or synchronous neuronal activity in the brain; when the above is associated with motor component then they are known as convulsions.

Material and methods: A hospital based cross-sectional, descriptive study was conducted with 100 patients to study the clinical profile of children aged 6 months to 12 years presenting with first episode of seizure to tertiary care hospital. All children in the age group of 6 months to 12 years admitted in hospital in Pediatric ward and PICU presenting with first episode of seizure attending at our OPD/IPD of Tertiary care Hospital who fulfilled the inclusion criteria.

Results: The most common symptom was fever (75%) followed by altered sensorium (44%), vomiting (30%), cough (20%), irritability (18%), lethargy (11%), headache (7%) and loose stools (4%). The duration of seizures in 73 (73%) patients was ≤10 minutes while the duration of seizures in 18 (18%) and 09 (09%) patients was 11-30 minutes and more than 30 minutes respectively.

Conclusion: First-episode of seizure in children causes physical, mental, and financial stress on the parents. The most important factor in diagnosing seizures is to rule out the possibility of a nonepileptic event. Detailed history, examination, and appropriate investigations can help identify the etiology of seizures.

Keywords: Seizers, fever, headache

Introduction:

Seizure is an impermanent occurrence of signs and symptoms due to abnormal and excessive or synchronous neuronal activity in the brain; when the above is associated with motor component then they are known as convulsions.[1] Seizure contributes to about 2% admission in pediatric emergency.[2] Convulsions constitute the

commonest neurological problem in children and most common neurological emergency attended by Pediatrician. Because of unpredictability of recurrence & varied manifestation, seizure disorder was always shrouded in mysticism & superstition. While the pathophysiology, diagnostics, and treatment have evolved over the last 3000 years, globally, the societal perceptions have largely remained the same. Due to modern medicine and the work of scientists and physicians for millennia, epilepsy can be safely managed, and most patients with the disease can live full and normal lives. There is a direct correlation between society's understanding of epilepsy, and outcomes and wellbeing of patients who have it. Unfortunately, there is still much to be done in regard to the global public perception of the disease, as well as public access to resources.[3]

Material and methods:

A hospital based cross-sectional, descriptive study was conducted with 100 patients to study the clinical profile of children aged 6 months to 12 years presenting with first episode of seizure to tertiary care hospital.

Study design: A hospital based cross-sectional, descriptive study

Study Duration: 18 months

Study area: The study was done at our tertiary care centre in the department of pediatrics on attending OPD/IPD.

Study population: All children in the age group of 6 months to 12 years admitted in hospital in Pediatric ward and PICU presenting with first episode of seizure attending at our OPD/IPD of Tertiary care Hospital who fulfilled the inclusion criteria.

Inclusion criteria

- All children admitted in hospital in Pediatric ward and PICU with first episode of seizure between aged 6 months to 12 years.
- Parents/ legal guardian of children who give informed consent

Exclusion criteria:

- Children with previous history of seizures or treatment of seizures.
- Children with severe head injuries requiring surgical interventions.

A hospital based cross-sectional, descriptive study was conducted with 100 patients to study the clinical profile of children aged 6 months to 12 years presenting with first episode of seizure to tertiary care hospital.

Majority of the patients (58%) were from the age group of 1-6 years followed by 23% from the age group of 6-12 years and 19% from the age group of 6 months - 1 year.

The most common symptom was fever (75%) followed by altered sensorium (44%), vomiting (30%), cough (20%), irritability (18%), lethargy (11%), headache (7%) and loose stools (4%).

Table 1: Distribution of patients according to Symptoms

Symptoms	N	%
Fever	75	75%
Altered sensorium	44	44%
Vomiting	30	30%
Cough	20	20%
Irritability	18	18%
Lethargy	11	11%
Headache	7	7%
Loose stools	4	4%

The duration of seizures in 73 (73%) patients was ≤10 minutes while the duration of seizures in 18 (18%) and 09 (09%) patients was 11-30 minutesand more than 30 minutes respectively.

Table 2: Distribution of children according to Duration of Seizures

Duration of Seizures	N	%
≤10 minutes	73	73%
11-30 minutes	18	18%
>30 minutes	09	09%
Total	100	100%

www.ijbamr.com P ISSN: 2250-284X, E ISSN: 2250-2858

Discussion:

A hospital based cross-sectional, descriptive study was conducted with 100 patients to study the clinical profile of children aged 6 months to 12 years presenting with first episode of seizure to tertiary care hospital. In the present study, majority of the patients (58%) were from the age group of 1-6 years followed by 23% from the age group of 6-12 years and 19% from the age group of 6 months - 1 year. The incidence of first episode of seizures was more common below 6 years and the incidence of seizures was found decreasing with the increasing age of children. This may be due to more susceptibility and high incidence of febrile seizures. 67 (67%) patients were male while female patients constituted 33% of the study group. This is similar to the studies of Prashanthi M et al22, Iqbali T et al [4], Alakkodan D [5], Gupta A et al[6] and Arıcan P et al[7].

It was observed in our study that the duration of seizures in 73 (73%) patients was ≤10 minutes while the duration of seizures in 18 (18%) and 9 (9%) patients was 11-30 minutes and more than 30 minutes respectively. 04 (04%) patients had family history of seizures. This is concordant to the studies of Prashanthi M et al[2], Alakkodan D[4] and Chen CY et al[8.] Prashanthi M et al [9] prospective observational study found 48 (21.8%) children had a family history of seizures. Alakkodan D[4] found a positive family history of seizures in 25.2% of cases. Chen CY et al65 reported a family history of seizures in only 8.2% of the cases.

The most common type of seizure in the present study was Generalized Tonic Clonic Seizure (GTCS) (88%) followed by partial seizures (10%) , 2 (2%) case were of atonic seizure. Similar findings were observed by Alakkodan D[4]

Conclusion:

First-episode of seizure in children causes physical, mental, and financial stress on the parents. The most important factor in diagnosing seizures is to rule out the possibility of a nonepileptic event. Detailed history, examination, and appropriate investigations can help identify the etiology of seizures.

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