



Original Article

Disease Profile of Seizure in Children

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Abstract

This study was done in the Department of Paediatrics, Rajshahi Medical College Hospital, Rajshahi to find out the disease profile of children Hospitalised with seizure presentation. From 01/01/14 to 31/12/14 period a total of 12,560 children in the age group 6 months to 12 years were admitted in the Paediatric department. Among these 656 (5.2%) children were admitted due to convulsion. 62.8% were male and 37.2% female, 53% febrile and 47% afebrile, 59% were less than 5 years. Generalized tonic clonic convulsion (GTC) was the most common seizure type (72.8%). Febrile convulsion, seizure disorder, meningitis and encephalitis were common causes of convulsion.

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Introduction

Seizure is one of the most common cause for children's emergency hospitalization. It accounts for about 1% of all emergency department visits and about 2% of children's emergency department visits.¹ It is one of the most common causes for children's mortality and morbidity. The incidence is highest in children less than 3 years of age.² In most of studies, febrile seizure was reported to be the most common cause of convulsion in children.²⁻⁴ CNS infection and seizure disorder are other common causes of convulsion in children. There are limited studies on causes and outcome of acute episode of seizure in developing countries. In this study we tried to find out the common causes of convulsion requiring children's emergency hospitalization.

Material and Methods

This was a retrospective hospital based study conducted in the department of Paediatrics, Rajshahi Medical College Hospital. The following

information was obtained from the medical records of each patient-age (range from 6 months to 12 yrs), sex, type of seizure, associated symptoms like (fever, cough, diarrhoea, headache), family history of seizure, developmental history, laboratory test results, neuroimaging like CT scan, MRI, EEG. Patients were divided into two groups-febrile and afebrile. Seizure type classified into GTC, absence, myoclonic, partial and other seizure types. Patients were also divided into two age groups-6 months to 5 yrs and 6 yrs to 12 yrs. All data were analyzed and compared among children of different age groups.

Results

From 01/01/14 to 31/12/14 period a total of 12,560 children in the age group 6 months to 12 yrs were admitted in the Paediatric Department of RMCH. Among these 656 (5.2%) children were admitted due to convulsion. 393 (60%) children were 6 months to 5 yrs of age and 263(40%) children

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were 6 yr to 12 yrs of age. 348 (53%) were febrile and 308 (47%) were afebrile.

Among 6 Months - 5 yrs age group no. of patients with generalized tonic-clonic seizure was 235 (60%), partial 98(25%), absence 16(4%), myoclonic 8(2%), others 36(9%).

Among above 5 yrs of age-No of patients with GTC was 168 (64%), partial 55 (21%), Absence 10 (4%), myoclonic 8(3%), others 21 (8%).

In age group 6 month to 5 yrs. No. of patients with febrile seizure was 224 (57%), seizure disorder 78(20%), meningitis 31(8%), encephalitis 23(6%), cerebral palsy 8(2%), tubercular meningitis 3(0.76%), Hypertensive encephalopathy 1(0.25%), others 25(6%).

In age 6 yr to 12 yrs, seizure disorder 131(51%) meningitis 34(12.5%), Encephalitis 34(12.5%), CP 15(6%), Tubercular meningitis 10 (4%) Hypertensive encephalopathy 10 (4%), others 28(10%).

□

6months-5years 60%
6years-12years 40%

Fig- 1: Distribution of Study patients by two age groups

Table-1: Sex distribution of patients by two age groups (n= 656)

SEX	6 Months-5Years	6years-12Years
Male	255(65%)	157(60%)
Female	138(35%)	106(40%)

Table1 shows in both age groups male are higher than female

Table-2: Type of seizure in study patients (n=656)

Type of seizure	6 Months-5Years	6 years-12Years
GTC	235 (60%)	168(64%)
Partial	98 (25%)	55 (21%)
Absence	16 (4%)	10 (4%)
Myoclonic	08 (2%)	8 (3%)
Others	36 (9%)	21 (8%)

Table 2 shows GTC is the most common seizure in both age groups

Table-3: Causes of seizure in study patients (n=656)

Causes of seizure	6Months-5Years	6years-12Years
Febrile seizure	224 (57%)	
Seizure disorder	78 (20%)	132 (50%)
Meningitis	31 (08%)	34 (12.5%)
Encephalitis	23 (06%)	34 (12.5%)
CP	8 (02%)	15 (06%)
TBM	3 (0.76%)	10 (04%)
Hypertensive encephalopathy	1 (0.25%)	10 (04%)
Others	25 (06%)	28 (11%)

Table3 shows Febrile seizure is the most common seizure in 6months-5years age group and Seizure disorder is the most common seizure in 6years-12years age group.

Discussion

Out study shows higher incidence of seizure in younger children which is compatible with most studies.²⁻⁵ Males had higher prevalence than female. Most studies show generalized seizure are much more common.^{4,5,7} Our study also shows same result. Most studies should febrile seizure to be one of the most common causes of convulsion in children.²⁻⁴ We found that febrile convulsion was the most common cause of convulsion in the age group 6 month to 5 yrs and seizure disorder was the most common cause of convulsion in age group 6 yr to 12 yrs in all age group meningitis and Encephalitis were common causes of convulsion.

Conclusion

Convulsion is one of the commonest cause of children hospitalization with high mortality. Our study shows that most episodes of convulsion was due to febrile seizure, CNS infection like meningitis and encephalitis, which can be prevented by improved medical facility. Moreover, seizure disorder with CP are important cause of convulsion which need long term follow up for better management.

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