Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr ICV 2018= 82.06

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

To record clinico-etiological profile of children with epilepsy- A clinical study

Atul Kumar Shrivastava[1], Murli Manohar Agarwal[2]

[1]Assistant Professor Department of Pediatric, Rajshree Medical College , Bareilly, U.P., India
[2]Assistant Professor Department of Pediatric, Varun Arjun Medical College And Rohilkhand Hospital Shahjahanpur UP, India

***ABSTRACT*:**
Background: Seizure is a common cause of hospital admissions in children. The present study was conducted to record clinico-etiological profile of children with epilepsy. **Materials & Methods:** The present study was conducted on 56 cases of epilepsy recorded in children age range 2-10 years in both genders. Clinical manifestations and type of seizures was recorded. **Results:** Out of 56 patients, males were 32 and females were 24. Common type was tonic seen in 22, clonic in 10, myoclonic in 8, absence in 6, atonic in 4, simple partial in 4 and complex partial in 2. The difference was significant (P< 0.05). Common clinical findings was fever in 43, altered sensorium in 35, cough in 28, vomiting in 18, lethargy in 12 and ear discharge in 10. Common CSF findings were pyogenic meningitis in 36, viral meningitis in 12 and tubercular meningitis in 8. The difference was significant (P< 0.05). **Conclusion:** Most common cause of seizure was pyogenic meningitis and most common seizure was tonic and clonic.
Key words: Clonic, Seizures, Tonic

Received: 13 March, 2019 Revised: 10 June 2019 Accepted: 12 June 2019

Corresponding author: Dr. Murli Manohar Agarwal, Assistant Professor Department of Pediatric, Varun Arjun Medical College And Rohilkhand Hospital Shahjahanpur UP, India

This article may be cited as: Shrivastava AK, Agarwal MM. To record clinico-etiological profile of children with epilepsy- A clinical study. J Adv Med Dent Scie Res 2019;7(8): 88-91.

INTRODUCTION

Seizure is a common cause of hospital admissions in children. The incidence is highest in children less than three years of age, with a decreasing frequency in older children. Four to six percent of children below 16 years of age encounter at least an episode of seizure.[1]

A seizure is an impermanent occurrence of signs or symptoms due to abnormal excessive or synchronous neuronal activity in the brain.[2] When the above is associated with motor component then they are known as convulsions. Epilepsy is a condition characterized by recurrent (two or more) unprovoked seizures occurring 24 hours apart.[3] Seizures contribute to about 1 % admissions in pediatric emergency and approximately 4-10 % children have seizures during first 16 years of life.[4] While febrile seizures are considered most common type of seizures in children worldwide developing countries have a large proportion of patients with CNS infections and SOL as a major cause of acquired epilepsy. Identifying the causes of seizure is important in these children as it helps in speculating the cause of seizure in different age groups. Shrestha BM et al[5] in their study found neurocysticercosis as a common cause of seizure in children in Nepal. However there are studies which have shown febrile seizure as a major cause of seizure in children. The present study was conducted to record clinico-etiological profile of children with epilepsy.

MATERIALS & METHODS

The present study was conducted in the department of Pediatrics. It comprised of 56 cases of epilepsy recorded in children age range 2-10 years in both genders. The study was approved from institutional ethical committee. All

participants were informed regarding the study and written consent was obtained from parent.
Data such as name, age, gender etc. was recorded. All patients were subjected to complete blood counts, serum electrolytes, serum calcium, serum glucose, lumbar puncture and CSF analysis. Clinical manifestations and type of seizures was recorded. Electroencephalography, CT scan and MRI was done. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

	Total- 56	
Gender	**Males**	**Females**
Number	32	24

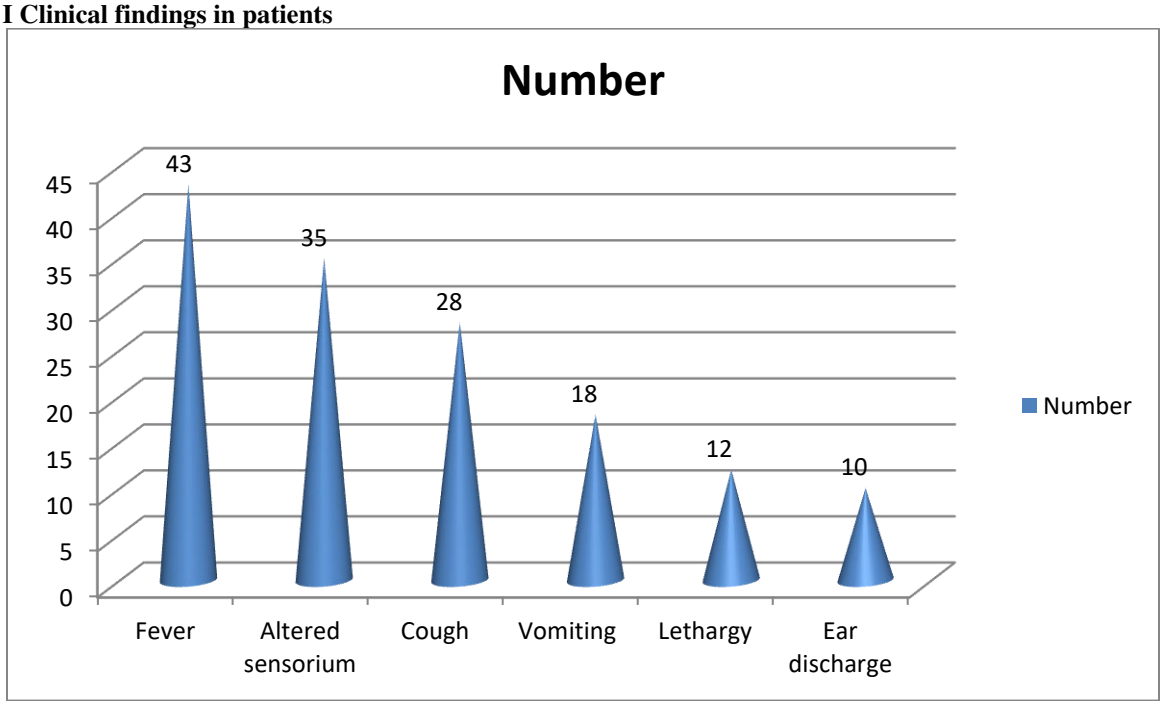
Table I shows that out of 56 patients, males were 32 and females were 24.

Table II Type of seizures

Type	**Number**	**P value**
Tonic	22	0.05
Clonic	10	
Myoclonic	8	
Absence	6	
Atonic	4	
Simple partial	4	
Complex Partial	2	

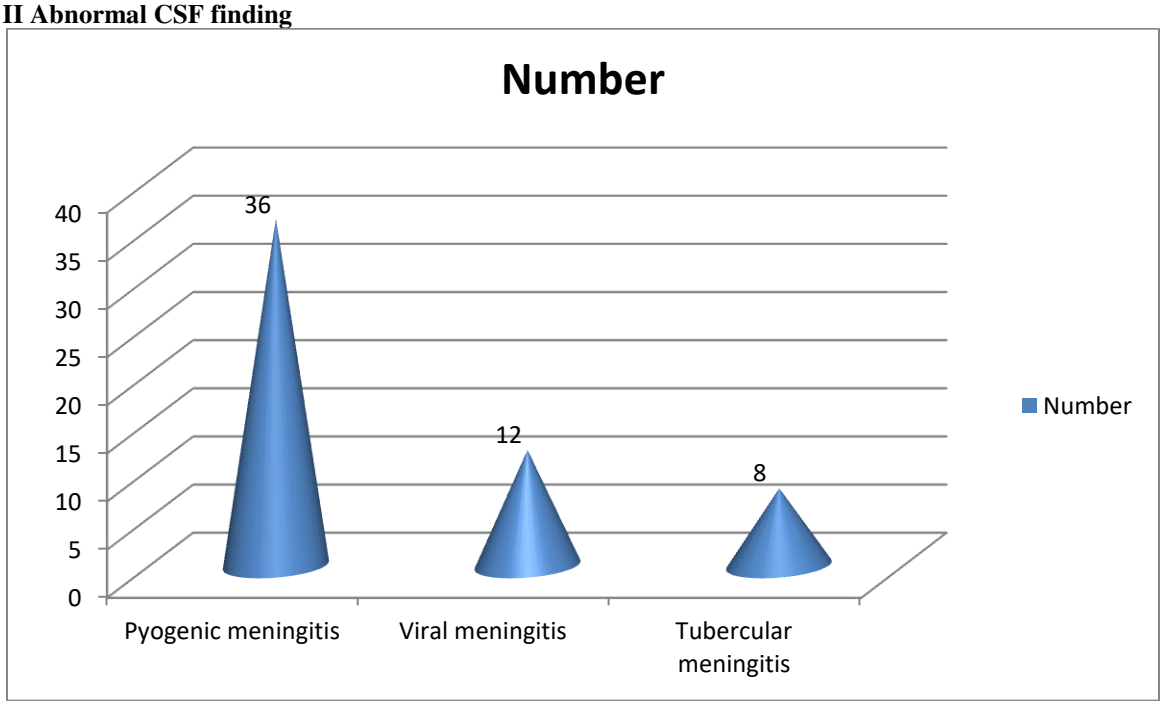
Table II shows that common type was tonic seen in 22, clonic in 10, myoclonic in 8, absence in 6, atonic in 4, simple partial in 4 and complex partial in 2. The difference was significant (P< 0.05).

Graph I Clinical findings in patients



Graph I shows that common clinical findings was fever in 43, altered sensorium in 35, cough in 28, vomiting in 18, lethargy in 12 and ear discharge in 10.

Graph II Abnormal CSF finding



Graph II shows that common CSF findings were pyogenic meningitis in 36, viral meningitis in 12 and tubercular meningitis in 8. The difference was significant (P< 0.05).

DISCUSSION

Seizure is a common problem evaluated in pediatric emergency departments which is a paroxysmal, time limited change in motor activity and/or behaviour resulting from abnormal electrical activity in the brain.[6] Epilepsy is a disorder of the brain characterized by an enduring predisposition to generate seizures and by the neurobiological, cognitive, psychological and social consequences of this condition.[7] The clinical diagnosis of epilepsy usually requires the occurrence of at least one unprovoked epileptic seizure with either a second such seizure or enough EEG and clinical information to convincingly demonstrate an enduring predisposition to develop recurrences.[8] The present study was conducted to record clinico-etiological profile of children with epilepsy.

In this study, out of 56 patients, males were 32 and females were 24. Common type was tonic seen in 22, clonic in 10, myoclonic in 8, absence in 6, atonic in 4, simple partial in 4 and complex partial in 2.

Idro et al[9] studied the clinico -etiological profile of convulsions in children - 1 month to 18 years of age and to analyze the types of seizures and their categorization according to age and to assess the immediate outcome of these participants. Occurrence of convulsions was highest 89 (58.1%) in the age group between 1 month to less than 5 years whereas lowest was found between age 10 – 18 years (15.1%).

We found that common clinical findings was fever in 43, altered sensorium in 35, cough in 28, vomiting in 18, lethargy in 12 and ear discharge in 10. Common CSF findings were pyogenic meningitis in 36, viral meningitis in 12 and tubercular meningitis in 8. The difference was significant (P< 0.05).

Saravanan et al[10] found that incidence of seizures decreased with increasing age. The most common type of seizure was generalized tonic clonic seizure. Etiological analysis revealed CNS infections to be commonest cause of seizure in pediatric age group, followed by Space occupying lesions, epilepsy, febrile seizures and metabolic causes. Febrile seizures had best outcome while CNS infections had highest morbidity and mortality.

Bachman et al[11] found that out of the 5229 children admitted, 533 (10.2%) were admitted for seizure. Male accounted for 346 (65%) cases. 424 (79.5%) of the children were below five years. Fever was associated with seizure in 407 (75.5%) cases. Generalized tonic clonic seizure was observed in 436 (81%) children. 37 children (7%) presented in status epileptics. A total of 370 (68.6%) patients were diagnosed as febrile seizure, 86 (16%) epilepsy, 15 (2.8%) cerebral palsy, 13 (2.4%) neurocysticercosis, 13 (2.4%) tubercular meningitis, 12 (2.2%) viral meningitis, 11 (2%) pyogenic meningitis. The mean duration of hospital stay was 3.3 (±2.84) days.

Huang et al[12] observed that among CNS infections, viral encephalitis as the most common cause followed by pyogenic meningitis, TBM, cerebral malaria and SSPE. Malaria prevalence is much higher as compared to that of India. SOLs were a leading cause of seizures after CNS

infections. NCC was the most common SOL followed by tuberculoma and brain tumors. Only 3% patients were found to have a metabolic cause for seizure. Such a low incidence may be due to exclusion of less than 6 month old children from our study who contributes maximally to metabolic causes of seizures.

CONCLUSION

Authors found that most common cause of seizure was pyogenic meningitis and most common seizure was tonic and clonic.

REFERENCES

1. Nypaver MM, Reynolds SL, Tanz RR, Davis AT. Emergency department laboratory evaluation of children with seizures: dogma or dilemma? PediatrEmerg Care 1992; 8(1):13-6.
2. Johnston MV. Seizures in children. In: Behrman RE, Jenson HB, Stanton BF, editors. Nelson Textbook of Pediatrics. 20th ed. Philadelphia: Saunders; 2015; 2823-63.
3. Friedman MJ, Sharieff GQ. Seizures in children. PediatrClin N Am 2006; 5(3):257-77.
4. Ojha AR, AryalUR :Clinico-etiological profile of children with seizures admitted in a tertiary centre. Journal of Kathmandu Medical College, Vol. 4, No. 2, Issue 12, Apr.-Jun., 2015
5. Shrestha JH, Hirtz DG, Nelson KB. Age of onset of seizures in young children. Ann Neurol 1984;15(2):127-34.
6. Prasad M, Prashant M, Rohit B, Kinjal D, Shainy C. Clinico-Etiological Profile of Convulsions In Children Amongst 1 Month To 18 Years of Age. Natl J Integr Res Med 2017; 8(4):91-95.
7. Adhikari S, Sathian B, Koirala DP, Rao KS. Profile of children admitted with seizures in a tertiary care hospital of Western Nepal. BMC Pediatr. 2013;13:43.
8. Camfield PR, Camfield CS, Dooley JM, Tibbles J a. R, Fung T, Garner B. Epilepsy after a first unprovoked seizure in childhood. Neurology. 1985;35:1657–1657.
9. Idro R, Gwer S, Kahindi M, Gatakaa H, Kazungu T, Ndiritu M, et al. The incidence, aetiology and outcome of acute seizures in children admitted to a rural Kenyan district hospital. BMC Pediatr. 2008;8:5.
10. Saravanan S. Profile of children admitted with seizures in a tertiary care hospital in South India IOSS Journal of Dental and Medical Sciences (IOSR-JDMS). 2013;11;56-61.
11. Bachman DS, Hodges FJ, Freeman JM. Computerized axial tomography in chronic seizure disorders of childhood. Pediatrics. 1976;58:828–32.
12. Huang C-C, Chang Y-C, Wang S-T. Acute Symptomatic Seizure Disorders in Young Children—A Population Study in Southern Taiwan. Epilepsia. 1998;39:960–4.