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ORIGINALARTICLE

Assessment of profile of children with seizure disorder

Santosh Kumar Verma

Associate Professor, Department of Paediatrics, K M Medical College & Hospital, Mathura, Uttar Pradesh, India

ABSTRACT:
Background: Children with seizure disorders, also known as epilepsy, experience recurrent seizures due to abnormal electrical activity in the brain. The present study was conducted to assess profile of children with seizure disorder. **Materials & Methods:** 56 children diagnosed with seizures of both genderswas recorded. Type of seizures was recorded. Residence, socio- economic status, clinical features and imaging features was recorded. **Results:** Out of 56 patients, males were 36 and females were 20. Type of seizures was generalized tonic- clonic seizures in 25, partial seizure in 31 cases. Residencewas urban in 22 and rural in 34. Clinical featureswas vomiting in 24, fever in 43, meningeal sign in 21, movement disorder in 17 and altered sensorium in 13 cases. SES was upper in 7, middle in 15 and lowerin 34 cases. Imaging features was normal in 21, HIE changes in 10, ring enhancing lesion in 15 and structural brain abnormalities in 10 patients. The difference was significant (P< 0.05). **Conclusion:** Maximum children had partial seizures. Most common clinical feature was fever, meningeal sign and vomiting.
Key words: Children, partial seizures, altered sensorium

Corresponding author: Santosh Kumar Verma, Associate Professor, Department of Paediatrics, K M Medical College & Hospital, Mathura, Uttar Pradesh, India

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INTRODUCTION

Children with seizure disorders, also known as epilepsy, experience recurrent seizures due to abnormal electrical activity in the brain.[1] Seizures can vary in type, duration, and severity, and they can significantly impact a child's daily life.[2]

There are several types of seizures that children may experience. These include focal seizures (formerly called partial seizures) that affect a specific part of the brain and generalized seizures that involve the entire brain. Examples of focal seizures include simple focal seizures (with or without motor symptoms) and complex focal seizures (which may cause altered consciousness).[3] Generalized seizures include absence seizures, tonic-clonic seizures, atonic seizures, and myoclonic seizures.Seizure disorders in children can have various causes. Some cases are due to genetic factors or brain abnormalities present at birth, while others may result from head injuries, infections (such as meningitis or encephalitis), strokes, brain tumors, or metabolic disorders. In some cases, the cause may be unknown.[4]

Although febrile seizures are the most frequent type of epilepsy in children, they can also be caused by serious conditions including infections, abnormalities of the brain's structure, etc.Birth asphyxia, metabolic reasons, and structural abnormalities of the brain are significant seizure causes besides febrile seizures. DALYs from seizure condition exceed 7 million. In India, 27.3 epileptics are diagnosed for every 100,000 people.[5] In impoverished nations with little resources, accurate seizure disorder diagnosis is never simple. These days, neuroimaging has become a key method for diagnosing seizure disorders.[6]The present study was conducted to assess profile of children with seizure disorder.

MATERIALS & METHODS

The present study consisted of 56 children diagnosed with seizures of both genders. Parents gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Type of seizures was recorded. Residence, socio-economic status, clinical features and imaging features was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 56		
Gender	**Male**	**Female**
Number	36	20

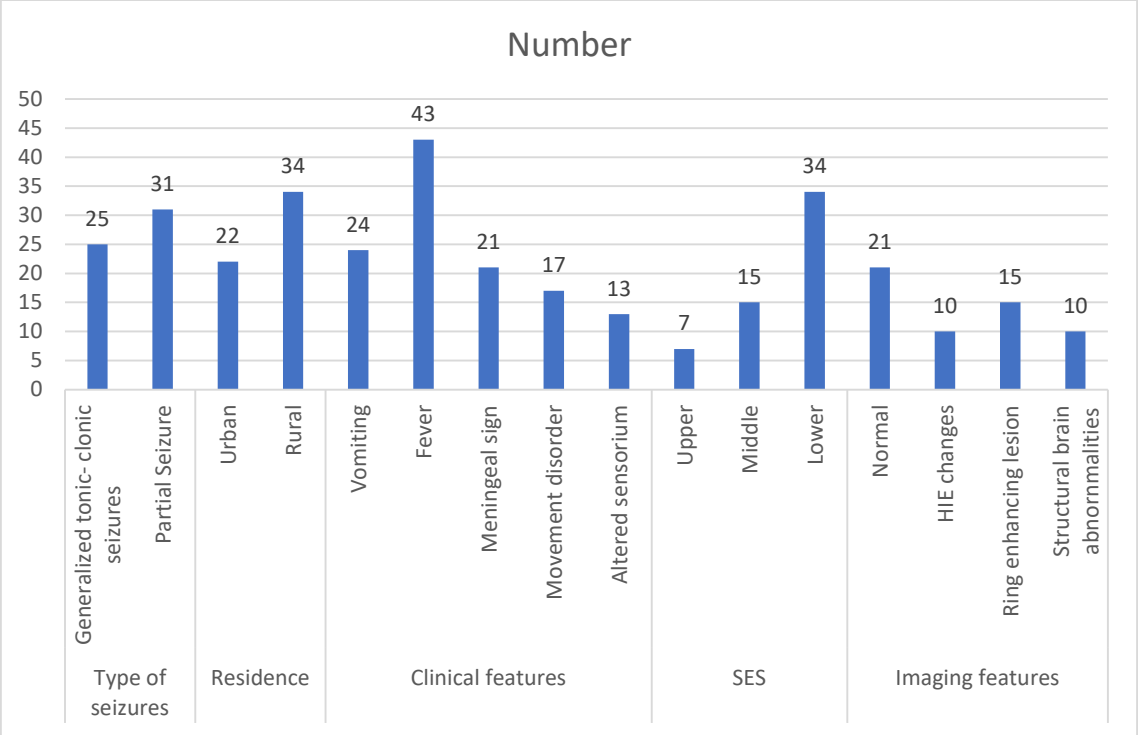
Table I shows that out of 56 patients, males were 36 and females were 20.

Table II Assessment of parameters

Parameters	Variables	Number	P value
Type of seizures	Generalized tonic- clonic seizures	25	0.78
	Partial Seizure	31	
Residence	Urban	22	0.84
	Rural	34	
Clinical features	Vomiting	24	0.91
	Fever	43	
	Meningeal sign	21	
	Movement disorder	17	
	Altered sensorium	13	
SES	Upper	7	0.02
	Middle	15	
	Lower	34	
Imaging features	Normal	21	0.92
	HIE changes	10	
	Ring enhancing lesion	15	
	Structural brainabnormalities	10	

Table II, graph I shows that type of seizures was generalized tonic- clonic seizures in 25, partial seizure in 31 cases. Residence was urban in 22 and rural in 34. Clinical featureswas vomiting in 24, fever in 43, meningeal sign in 21, movement disorder in 17 and altered sensorium in 13 cases. SES was upper in 7, middle in 15 and lower in 34 cases. Imaging features was normal in 21, HIE changes in 10, ring enhancing lesion in 15 and structural brain abnormalities in 10 patients. The difference was significant (P< 0.05).

Graph I Assessment of parameters



DISCUSSION

A comprehensive medical history, physical examination, and diagnostic testing are frequently used to identify a seizure disease in children.[7] A typical technique to capture the electrical activity of the brain and spot aberrant patterns is electroencephalography (EEG).[8] To identify the underlying cause of the seizures, additional tests may be carried out, including blood tests, brain imaging (MRI or CT scan), or genetic testing.[9]The goal of treating epilepsy in children is to minimise adverse effects while reducing or eliminating seizures.[10] Antiepileptic medications are the main form of treatment, and they are prescribed based on the type of seizure and the particular requirements of the child A ketogenic diet, which is high in fat and low in carbohydrates, may be suggested in specific

circumstances.[11,12] The present study was conducted to assess profile of children with seizure disorder.

We found that out of 56 patients, males were 36 and females were 20.Idro et al[13]investigated the prevalence, underlying causes, and acute effects of seizures in a rural Kenyan coastalmalaria hotspot.Acute seizure incidence was 425 per 100,000 children aged 0 to 13 years, and 879 per 100,000 children aged 5.Over 80% of the seizures were associated with infections. Neonatal infections (28/43 [65.1%]) and falciparum malaria (476/821 [58.0%]) were the main diseases associated with seizures in neonates and in children six months or older respectively. Falciparum malaria was also the main illness (56/98 [57.1%]) associated with status epilepticus. Other illnesses associated with seizures included pyogenic meningitis, respiratory tract infections and gastroenteritis. Twenty-eight children (3.1%) with seizures died and 11 surviving children (1.3%) had gross neurological deficits on discharge. Status epilepticus, focal seizures, coma, metabolic acidosis, bacteraemia, and pyogenic meningitis were independently associated with mortality; while status epilepticus, hypoxic ischaemic encephalopathy and pyogenic meningitis were independently associated with neurological deficits on discharge.

We found that type of seizures was generalized tonic-clonic seizuresin 25, partial seizure in 31 cases. Residencewas urban in 22 and rural in 34. Clinical featureswas vomiting in 24, fever in 43, meningeal sign in 21, movement disorder in 17 and altered sensorium in 13 cases. SES was upper in 7, middle in 15 and lowerin 34 cases. Imaging features was normal in 21, HIE changes in 10, ring enhancing lesion in 15 and structural brain abnormalities in 10 patients. Adhikari et al[14]admitted a total of 551 patients for seizures with 338 (61.3%) males and 213 (38.7%) females. Among these patients, 295 (53.5%) presented with fever and 317 (57.5%) of children were less than 5 years of age. Generalized tonic-clonic seizures were the most common seizure type (69.9%). Seizure disorder (33.4%), febrile seizures (30.7%), CNS infections and neurocysticercosis were common etiologies. Abnormal brain images were noted in 111 (45.9%) of 242 patients and most common abnormality was neurocysticercosis 66 (59.5%).CNS infections and febrile convulsions were common causes of seizures in febrile children. Neuroimaging should be advised in all afebrile children for the diagnosis of neurocysticercosis. Children diagnosed as seizure disorder require long term follow up studies including neurophysiologic studies.

The limitation the study is small sample size.

CONCLUSION

Authors found that maximum children had partial seizures. Most common clinical feature was fever, meningeal sign and vomiting.

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