

AUDIT OF 100 CASES OF EPILEPSY IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Epilepsy is not an uncommon disease. Around 50 million people worldwide have epilepsy. The objective of this study was to evaluate the frequency and causes of epilepsy in our set up.

Methodology: This descriptive study was conducted at epilepsy clinic Postgraduate Medical Institute, Lady Reading Hospital Peshawar from 1st January 2008 to 30th June 2008. Patients above the age of five years were included in the study. Those with post traumatic seizures were excluded. Detailed history, thorough physical examination and relevant investigations were done in each patient.

Results: One hundred patients of epilepsy were studied. Sixty-six (66%) were males and 34(34%) were females. Forty seven percent of the patients were in the age group of 11-20 years. Seventy (70%) of the patients were suffering from generalized tonic-clonic seizures, 11(11%) from partial seizures secondarily generalized, 7(7%) from absence seizures, 6(6%) from complex partial, 4(4%) simple partial seizures and 2(2%) unclassified and non-epileptic seizures. Positive family history of epilepsy was found in 24(24%) and febrile fits in 17(17%) patients. Fourteen (14%) patients had fits after having injury at some time of their life. Electroencephalographic changes were positive in 55(55%) and CT brain findings were helpful in 24(24%) patients.

Conclusions: Epilepsy is a common medical problem in Pakistan. Generalized tonic clonic seizures was the most common followed by partial seizure secondarily generalized and complex partial seizure. Majority of the cases were idiopathic.

KEY WORDS: Epilepsy, Tonic-clonic seizures, Aetiology.

INTRODUCTION

Epilepsy is a chronic neurological disorder that affects people of all ages. Around 50 million people worldwide have epilepsy. Nearly 90% of the people with epilepsy are found in developing regions.

Epilepsy is characterized by recurrent epileptic seizures due to a genetically determined or acquired brain disorder.¹ Epileptic seizures result from electrical hyper synchronization of neuronal networks in the cerebral cortex. Non-epileptic seizures (NES) are sudden changes in behavior that resemble epileptic seizures but are not associated with typical neurophysiological changes that characterize epileptic seizure.² NES are subdivided into two types: physiological and psychogenic. Physiological NES are caused by a sudden alteration of neuronal function due to metabolic derangement or hypoxia for example severe hypoglycemia, cardiac arrhythmias and syncope. Psychogenic NES are thought to result from stressful psychological conflicts or major emotional trauma and are more challenging to diagnose but rarely

occur de novo in patients without a significant psychiatric history. Serum prolactin has limited utility as a diagnostic test for epileptic seizures.³ A level is drawn 10 to 20 minute after the seizures and compared with a base line level drawn six hours later. Twice the base line level may be significant to some investigators. A systemic review made the following conclusions.⁴ Sensitivity was higher for generalized tonic clonic seizures than for complex partial seizures. Raised serum prolactin can be useful in differentiating tonic clonic and complex partial seizures from psychogenic seizures in adult and older children only. A normal prolactin level is insufficient to exclude epileptic seizure or support a psychogenic diagnosis. Prolactin levels cannot be used to differentiate seizure from syncope, as prolactin rises after syncope.

Onset of seizures in late life may be a risk factor for stroke and prompt evaluation and treatment for stroke risk factors should be done in new onset of seizures in older patients.⁵ Head injury accounts for a relatively small proportion of epilepsy overall.⁶ Antiepileptic drugs prevent seizures

in the first week after head injury but don't prevent the development of epilepsy.⁷ Photosensitivity has received considerable attention as a seizure trigger. The most famous incident occurred in relation to a Pokémon cartoon aired in 1997 in Japan in which 685 children (from an estimated 7 million viewers) sought medical attention for seizures. Three-fourths of the children had not experienced seizures previously.⁸ Guidelines for restricting use of specific signals on television broadcasts exists in Japan and Great Britain.⁹

The objective of this study was to evaluate the frequency and causes of epilepsy in our set up.

MATERIAL AND METHODS

This descriptive study was conducted at epilepsy clinic Postgraduate Medical Institute, Lady Reading Hospital Peshawar. Detailed history, thorough physical examination and relevant investigations were done in each patient.

Patients above the age of five years were included in the study. Those with post traumatic seizures were excluded.

RESULTS

Out of one hundred patients 66 (66%) were males and 34 (34%) females, with a male to female ratio of 1:1.94. The largest number of patients fell in the age group 11-20 years. (Table 1)

Table1: Age distribution of patients.

Age group (years)	Number of patients	Percentage
11-20 years	47	47
21-30 years	20	20
5-10 years	18	18
31-40 years	8	8
41-50 years	5	5
51-60 years	1	1
>60 years	1	1
Total	100	100

The catchment area was scattered all over Khyber Pakhtunkhwa.

Twenty-five (25%) patients came by themselves to the OPD and 24 (24%) were brought by relatives, 7 (7%) were referred by general practitioners and 2 (2%) by district hospitals.

Seventy (70%) patients were suffering from generalized tonic-clonic seizures, 11 (11%) from partial seizures secondarily generalized, 7 (7%) from absence seizures, 6 (6%) from complex partial and 4 (4%) from simple partial seizures and 2 (2%) from unclassified and non-epileptic seizures. (Table 2)

Table 2: Type of Seizures.

Type of Seizures	Number of patients	Percentage
Generalized tonic-clonic	70	70
Partial seizure sec. generalized	11	11
Absence seizures	07	07
Complex partial seizures	06	06
Simple partial seizures	04	04
Unclassified	01	01
Non epileptic seizures	01	01
Total	100	100

Table 3: History of past illness in epileptic patients.

Past History	Number of patients	Percentage
Family history of epilepsy	24	24%
Febrile illness	17	17%
History of status epilepticus	16	16%
Relevant neurological illness	15	15%
Head injury	12	12%
Relevant medical illness	10	10%
Developmental delay	10	10%
History of meningitis	07	07%
Birth trauma	03	03%
History of tuberculosis	02	02%

Twenty-eight (28%) patients were not taking any anti-epileptic drugs. Among those taking anti-epileptic 75% were taking one drug, 22% two and 1% was taking more than three drugs..

Positive family history of epilepsy was found in 24% and febrile fits in 17% percent of patients. (Table 3)

Seven percent had cognitive impairment and 1% had increased intra cranial pressure, examination of the fundi oculi was normal in all patients . CT and MRI brain findings were suggestive of gliomas, arteriovenous malformation and huge infarcts. Low blood glucose (<60 mg/dl) in 6% while low serum calcium (<7 mg/dl) in 3% of patients as shown in Table 4.

Table 4: Normal and abnormal investigations.

Investigations	Abnormal	Normal
EEG	55	45
CT brain	20	80
Blood sugar	6	94
Serum Calcium	3	97
Complete blood count	4	96
ECG	1	99
Drug level (not done=90)	03	07
MRI brain	02 (done)	98 (not done)

DISCUSSION

Among the 100 patients, 66%were males and 34% were females, however one population based study show no significant gender difference.¹⁰ The global prevalence of epilepsy is between 5 and 10 cases per 1000 population.¹¹ Studies have shown various differences in epidemiological pattern of epilepsy around the world and few studies of epilepsy are available from Pakistan.¹² Prevalence of epilepsy in Pakistan is 9 per 1000 population with highest prevalence in people younger than thirty years of age.¹³ About 1% prevalence rate has been revealed in a population based study conducted in Pakistan on 24130 individuals.¹⁴ Regarding types, primary generalized seizures were reported in 52 to 70 percent cases., in our study the frequency was also same (70%). Secondary generalized seizures were reported in 15-25% cases while in our study this frequency was 11%. This difference could be due to small

sample size. In the context of etiology, Khan et al reported history of perinatal complications in 76% of their patients.¹⁵ In the 100 patients studied by Afzal et al,¹⁶ 24 patients had either meningitis/encephalitis while in our study this frequency was 7%. Epilepsy usually starts in childhood, is more common in mentally retarded patients and in the first degree relatives.¹⁷ Head injury increases chances of this condition by five times. The corner stone of diagnosis is careful history from reliable informant. The cause is established in less than 25% of all seizures.

One of the main reasons for the higher incidence of epilepsy in developing countries is the higher risk of conditions like meningitis, malaria, prenatal and postnatal complications.¹⁸

The most common risk factor observed in our study is the family history. A similar study at Khyber Teaching Hospital Peshawar Siddiqui observed that family history of epilepsy was present in 35% of children.¹⁹

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