JULY - SEPTEMBER 2012

MEDICAL CHANNEL

Original Article

STUDY OF SEIZURE PATTERNS AND ETIOLOGICAL FACTORS IN EPILEPTIC PATIENTS AT LUMHS

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ABSTRACT:

Objective: To determine the frequency of seizure patterns and identification of etiological factors in epileptic patients.

Material and Method: This is descriptive, prospective study, conducted in the department of medicine and neurology LUMHS Jamshoro/Hyderabad. During period of January 2009 to November 2009.A total No: of 100 Patients of both sexes of all ages were included in the study.

Result: Most common seizure pattern observed in the study was generalized seizures in 60% patients, 30% patients had partial seizures and 10% patients were diagnosed as partial seizure with secondary generalization. Common seizure subtype of generalized seizures was GTCS noted in 35% patients, 13% patients had Absence seizures, 5% patients had Myoclonic epilepsy and 3% patient atonic seizures, 4% patients had atypical absence seizures. Partial Seizure were seen in 30% patients, among them 20% patients had simple partial seizures and 10% patients had complex partial seizures and 10% patients PS with secondary generalization. Investigations were carried out selectively in all epileptic patients with different seizure patterns included in our study for detection of possible etiological factors.

Conclusion: Early identification of etiological factors and analysis of seizure type will have better management of epileptic patient. Furthermore it will improve the quality of life and social wellbeing of epileptic patients and decrease the socio-economic burden of our society.

Key words: Epilepsy, seizure pattern and etiological factors.

INTRODUCTION:

Epilepsy is most common Neurolgic disorder in developed and developing counties. Epilepsy may be characterized by tendency to recurrent unprovoked seizures. The seizures may result from Paroxysmal excessive neuronal discharge in the brain with different clinical manifestations.

According to WHO about 50 million people have epilepsy world wide, 90% people being involved in developing countries [1]. Epilepsy can occur at any age but, it is more common in young children and elderly people above the age of 60 years [2]. Annual incidence rate of epilepsy is 40 to 70 per 1, 00,000 person per years in developed country where as 100 to 190 per 1, 00,000 person per years in developing countries [3]. Prevalence of epilepsy is approximately between 5 to 10 cases/1000 people [3, 4]. Epilepsy is classified on the basis of etiology, seizure pattern and epileptic syndromes. Etiology of epileptic patients is divided into Idiopathic, symptomatic epilepsy and Cryptogenic.

In idiopathic epilepsy no specific cause and No other neurologic abnormality found. When cause of recurrent seizures is identified it is called Symptomatic epilepsy. In symptomatic epilepsy causes are depend on age of patients. In pediatric age group various congenital disorders may lead to symptomatic epilepsy. Metabolic disorders, trauma, space occupying lesions, Infection diseases, vascular disorders and degenerative

disorders can cause symptomatic epilepsy at any age.
Various Factors can precipitate the seizures, like febrile illness, metabolic derangements, non compliance of medication and sleep disturbances. When seizures are precipitate in women during menstrual cycles is called cataminail epilepsy [5].
Classification of seizures according to international league against epilepsy is clinically helpful for diagnosis of epilepsy and difference b/w various seizure types is important for proper treatment and prognosis of epileptic patients [6].
Seizures are classified into Partial Seizures, Generalize Seizures and Partial Seizures with secondary generalization. Partial Seizures are further classified into Simple Partial seizures, Complex Partial seizures. Generalize Seizures are further divide into Absence Seizure, atypical absence seizures, clonic seizure, tonicclonic seizure, myoclonic seizure and atonic seizure. Epilepsy is major public health problem especially. in developing countries. Approach to diagnoses and management according to etiological pattern and seizure types will lead to proper control of seizures in epileptic patients, and it will improve the quality of life and decrease the socio economic burden of Society.

OBECTIVE:

To determine the frequency of seizure patterns and identification of etiological factors in epileptic patients.

MATERIAL AND METHOD

This is discreptive, prospectic study, conducted in the department of medicine and neurology LUMHS Jamshoro/Hyderabad. During period of January 2009 to November 2009.A total No: of 100 Patients of both sexes of all ages were included in the study. A detailed history and clinical examination was done for diagnoses of epilepsy and analysis of seizure pattern and etiological factors in epileptic patients. Necessary investigations including neuro imaging CT SCAN BRAIN/MRI BRAIN were selectively carried out in epileptic patients to determine the possible etiologiclal factors responsible for symptomatic epilepsy.
Patients with pseudo seizures, acute symptomatic seizures were excluded from study.
Special proforma was designed for data collection and data was analyzed by using spss version 10 for statical analysis.

RESULT:

This study included 100 epileptic patients in which 65% were male and 35% were female patients. (Figure I)
Common etiological factor was space occupying lesion reported in 21 % patients, 5% patient had cerebrovascular accident. Space occupying lesion with neoplstic in origin was reported in 8 % patients, 3% patients had tuberculoma, 3% patients had cysticercosis, 2% patient had cerebral abcess, 2% patient had tuberous sclrosis and 3% patient had other cystic lesions of brain reported. In 3% patients ICH, 2% patients had SAH was reported. In others 2% patients had MTS, 2% patients had cerebral atrophy. EEG was done in 50% patients, it was reported normal in 30% patients, and abnormal findings were reported in 20% patients. Figure II
In this study 25% patients were below 14 years and 75% patients were from 14-75 years. Most common seizure pattern observed in the study was generalized seizures in 60% patients, 30% patients had partial seizures and 10% patients were diagnosed as partial seizure with secondary generalization. Common seizure subtype of generalized seizures was GTCS noted in 35% patients,

FIGURE I

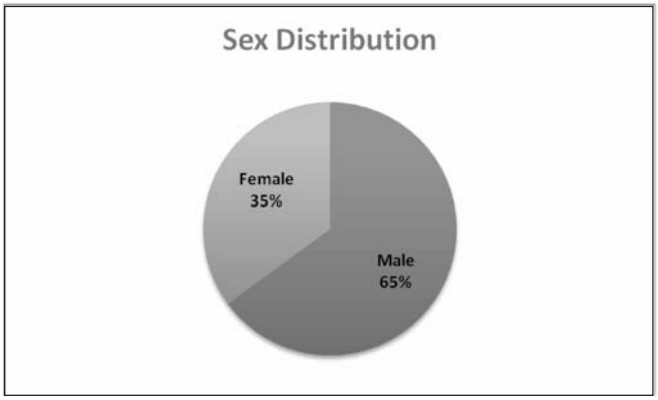


FIGURE II

FIGURE III

13% patients had Absence seizures, 5% patients had Myoclonic epilepsy and 3% patient atonic seizures, 4% patients had atypical absence seizurs. PartialSeizure were seen in 30% patients, among them 20% patients had simple partial seizures and 10% patients had complex partial seizures and 10% patients PS with secondary generalization. Figure III

Investigations were carried out selectively in all epileptic patients with diferrent seizure patterns included in our study for detectation of possible etiological factors. Investigations carried out were CBC, metabolic profile, EEG, Neuro imaging CT scan Brain, MRI brain and others.

Neuro imaging was done in 70% patients, CT Scan Brain in 40% patients and MRI Brain in 30% patients. Among them normal imaging was reported in 40% patients, in 30% patients abnormal findings were reported.

Common EEG finding in our study was generalized spike and sharpwave dischrgesin10 patients, 5 patients had focal spike and sharp waves, generalized slowing in 2 patients and 3 patients had focal slowing.

In our study 10 patients had depressive illness, 15 patients had focal neurological defect, 6 patients were mental retarded, 5 patients had hypertention and 10 patients had diabetes militates.

DISCUSSION:

Epilepsy in chronic disorder of CNS with different etiology it is major medical and social problem. This study showed 65 % patients were male and female were 35%. Male had more epilepsy than female patients in this study, Similar results was observed in study by khan MNS et al[4], Usman et al[7] and study from Sudan by abbasher et al[9].

In our study 75% patients were between the age of 14 to 75 years, where on 25% patient were below 14 years of age. Epilepsy can occur at any age but two extremes of age very young and very old age are more affected. Increase frequency of epilepsy in elderly age group was reported in various studies, [8,9,10] but different results were seen in study from Hong Kong [11], where rate of epilepsy occurred peaked at age of 25 to 30 years, reduced gradually after age of 65 years. Increase incidence of epilepsy in male gender and increasing frequency with increasing age was most probably due to symptomatic seizures secondary to exposure to infection disease, metabolic derangement and head trauma in elderly age group. In our study most common seizure pattern observed was generalized seizures, increase frequency of generalize seizures were also reported in study by A sylve et al[12]. Common partial seizure type noted in our study was simple partial seizures in 20% patients and complex partial seizures in 10% patients, relatively similarly result were also observed in various local and international studies [7,8,12].

Idiopathic epilepsy is common in all age group but frequency of symptomatic epilepsy found with increasing age[13]. In our study idiopathic epilepsy commonly noted in 70% patients, 30% patients had symptomatic epilepsy, common etiological factor noted in our study was space occupying lesion in 21% patients and CVA in 5% patients. Similar results were also reported in study [8], but different results were observed in study [10], where CVA was reported as common etiological factor for symptomatic epilepsy. High index of CNS infection as etiological factor was reported in study from Africa where Cysticercous is much more common than other areas of world [14].

Neuro imaging CT SCAN Brain, MRI Brain is helpful investigation of detection of structural lesions, atrophic lesion of the brain and demylinting disorders of brain. Simultaneously radiological support may also help to localize the structural lesion responsible for symptomatic epilepsy. High index of abnormal findings are well reported on neuro imaging especially in patients with partial epilepsy [15].

EEG is helpful to classify the seizures type, localize the seizure foci in the brain and required for diagnosis in various epileptic syndromes. In our study EEG was abnormal in 20 patients; common EEG findings were generalized spike and sharp wave discharges, focal spike and sharp waves and focal and generalize slowing, similar results were also reported in study [16]. Where increasing frequency of generalized seizure activity was reported on EEG but different results were noted in study [8], where focal actively was noted in majority patients.

CONCLUSION:

Epilepsy is major health problem world wide specially, in developing countries. It will affect the quality of life of patients because continuous long term treatment required in majority of patients. Identification and awareness about disease regarding etiological factors, seizure types will help for better management of epileptic patients for good prognosis. It will provide path for the health care personals to make arrangements for best possible options of treatment for epileptic patients which will reduce socio economic problems of our society.

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