

## Study of Risk Factors in the Management of Epilepsy – A Study of 100 Cases

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### ABSTRACT

**Objective:** Epilepsy is one of the commonest neurological problems seen in neurology and the ultimate aim is to manage the fits. Despite giving various medicines, fits are not controlled in some patients. This study has been carried out to define various factors which account for poor control of fits in these patients. These include incorrect diagnosis of epilepsy, under dosage, improper selection of the drugs, noncompliance of the patient, lack of education, etc. If proper emphasis were given to all these factors while treating the patient of epilepsy, fits can be effectively controlled in the majority of the patients.

**Material and Methods:** It was a retrospective and prospective study. The duration of study was six months from 1st January to 31st Dec 2016. The study has been carried in the department of neurology, Gujranwala medical college/DHQ teaching hospital Gujranwala.

**Results:** A total number of hundred patients were entered into the study. This was a heterogeneous group according to gender and age. There were a total of 62 (62%) males, and 38 (38%) females. Out of total 100 patients, 86 had idiopathic epilepsy which constitutes 86% of total patients. Four (4%) had fits following meningitis. There were no patients with a history of fits following trauma. There were four (4%) patients who had a brain tumor.

**Conclusion:** It is concluded from our study that: Idiopathic Epilepsy is the commonest among etiology of fits almost (86%). Tonic clonic generalized epilepsy is the commonest type of presentation for Epilepsy (76%). The control of seizures can be improved by education/counselling of the patients.

### INTRODUCTION

This study aims to find out different factors that affect control of fits in 100 patients. After study it was found out that the following factors affect control of fits in the patient population. While diagnosing and treating epilepsy, one must consider the patient's age. This is important because the etiology of epilepsy is different at different ages. As, for example, perinatal hypoxia and congenital malformation are the most important causes of fits in infants (0-2). On the other hand brain tumor and CVAs are the commonest causes in older adults. Seizures at different ages are because of different reasons. As it has already been mentioned that the onset of fits at different ages is important for diagnosis and treatment point of view. Once the etiology of epilepsy is known, one must classify the

type of epilepsy. That is again important for the treatment of fits. For example, in case of partial seizures the first line drug is carbamazepine or levetiracetam. In contrast, Valproic acid is the first line drug for generalized tonic clonic seizures. It has been seen that in some cases the fits are not controlled even though the patient is given antiepileptic therapy. The reason is that underlying illness is not fully known. So it is important that underlying illness should also be treated in addition to the treatment of fits. In some cases, however, it may be electrolyte imbalance or some other problem. In many cases the fits are not controlled because the proper antiepileptic drug is not instituted. So selection of proper anti-epileptic therapy is extremely important for the control of fits. In some cases it has been seen that patients do not take the drug

in proper dosage or they don't take medicines at all at times. Underdosage leads to lack of control of fits. This should be managed properly.

Education is important for the proper treatment fits. It has been seen that educated patients take medicines regularly and have better control of fits. Awareness of the disease is important and educated patients obviously have better awareness. The fits are difficult to control in mentally retarded patients because they do not understand their illness to have better control of fits. To have better control of fits they should have regular medications and sometimes they need multiple drugs at the same to control of fits. Intercurrent illness should be treated because these cause fits, which are controlled when the patients are febrile.

## MATERIALS AND METHODS

We randomly selected 100 patients with age 13 years and above and both males and females were selected. It was a retrospective and prospective study. The duration of study was six months from 1st January to 31st Dec 2016. The study has been carried in the department of neurology, Gujranwala medical college/ DHQ teaching hospital Gujranwala. One hundred patients were randomly selected who were following the neurology OPD for years for the treatment of epilepsy. EEG was done in all patients and findings were recorded. The CT brain, MRI brain and CSF were done where required. Serum levels were not done because these are very expensive and most of these are not available locally. So we have to rely on the history as regard the complaints. A detailed history was taken from all the patients, their relatives and eye witnesses. Then thorough general and physical examination was done. All the patients had routine laboratory checkup. A performa was designed for patients record and follow-up.

### Selection Criteria

Patients having confirmed epilepsy with recurrent fits as a major complain were selected. And it has already been mentioned that all males and females above the age of 13 years were selected.

### Exclusion Criteria

1. Patients having major psychiatric symptoms were not included in the study. Patients under the age of 12 were not included in the study as these refer to

pediatric department.

2. Patient with autoimmune diseases were also excluded from the study.

### Follow-up Methodology

At each OPD visit, following initial work-up, and interval history was obtained regarding the status of the illness. This included a number of fits-type of occurrence, schedule of daily activities, inquiry was made about school, job, social interaction, recreation, behavior of family, treatment issues included, any change in dose, dose adjustments, drug withdrawal, psychological & social problems, prevention of unnecessary dependence, stress on compliance (directly to the patient), permission regarding driving, swimming, and operating machinery. All these informations were recorded in the designed performa.

## RESULTS

A total number of hundred patients were entered into the study.

### Gender and Age Incidence

This was a heterogeneous group according to gender and age. There were a total of 62 males, which comprise 62% of population as opposed to 38 females, which constituted 38% of total patients.

### Etiological Factors

Table 1 shows that out of total 100 patients, 86 had idiopathic epilepsy which constitutes 86% of total patients. 4 percent had fits following meningitis which, constitutes the same percentage. There were no patients with a history of fits following trauma. There were four patients which had a brain tumor. Post stroke cases were four that developed fits and same percentage was constituted.

**Table 1: Etiology of Fits.**

Causes	No. of patients	% age
Idiopathic	86	86
Post meningitic	4	4
Post traumatic	-	-
Tumor related	4	4
Post stroke	4	4
Post-partum	2	2

**Table 2:** *Various Types of Epilepsies.*

Type of Seizures	No. of Patients
Generalized	
Tonic clonic	76
Clonic	-
Tonic	6
Partial	
Jacksonian	6
Complex partial	6
Myoclonic	6

Only two patients developed fits following delivery and again the same percentage was added.

### Types of Epilepsy

Table 2 shows various types of epilepsies which were under study. Out of 100 patients, 76 had generalized tonic clonic, 6 had tonic and there was no patient with clonic fits. As for partial seizures, 6 has Jacksonian fits and 6 had complex partial seizures, and 6 patients had myoclonic seizures. This was done on the basis of the history of the patient and an eye witness account of the episode.

### Aura Symptoms

Out of 100 patients, only 36 had some type of warning before attack, in rest of the patient there was no aura. Distribution of these aura symptoms is given in the table 3.

**Table 3:** *Frequency of Symptoms of Aura.*

Symptoms	No. of Patients
Twisting of face or arm	2
Feeling of numbness of whole body	2
Headache	4
Sinking of heart	8
Epigastric pain	Nil
Dizziness	6
Unable to speak	4
Strange feeling	2

Slurred speech	2
Palpitation	2

The study was done in 100 patients. The duration varied from as short as one week to as long as twenty years. The average age was between 20-25 years.

Proper diagnosis Educatory Councelling of the patients was done and all cases and we are able to control the fits in (90%) cases.

### DISCUSSION

The aim was this study was to find out prevention of different factors which affect control of epilepsy in patient population presenting to the neurology department at Gujranwala medical college/DHQ teaching hospital Gujranwala. It was thought that this aim could help in better management of fits. It had been seen during the study that many patients had poor control on fits. In a study of hundred patients, 15 percent of the patients had poor control of fits. It was seen that in some patients that they were not taking medicines at all. One reason was that in these patients' disease was not diagnosed properly. For example, in two elderly patients who came with a history of fits for about two weeks, were taking carbamazepine in normal adult doses but fits were not controlled. Brain imaging was then advised and it showed SOL which was later operated and the patients became symptom free. In ten patients the fits were not controlled because the patients were not taking medicines regularly.<sup>1,2</sup> The reason was that the patients were not aware of the disease. To such patients literature about epilepsy was provided so that they could have awareness about the disease and can take precautionary measures. In six patients who had generalized epilepsy, fits were not controlled. They were ultimately diagnosed as having myoclonic epilepsy.<sup>3,4</sup> Four of these were females and were sisters. They were diagnosed as a case of Lafora body disease<sup>5-9</sup> The diagnosis was made on the basis of history. The partial control of fits was achieved through sodium valproate and clonazepam.<sup>10-12</sup> These three had been bed bound for a long time. Two sisters died of severe chest infection. The youngest sister improved to the extent that the frequency of fits has comparatively decreased. Unfortunately, she lost follow up later on. We have seen during the study, the EEG was abnormal in 75% of cases.<sup>13</sup> We also

included those who had fits following stroke. These were four such patients who developed fits following cerebrovascular accidents. So, this actually constituted 4% of all patients. This was consistent with Rochester study.<sup>14-16</sup>

We also have come across two patients who developed fits secondary to brain SOL that was actually 4% of all patients. Rochester's study suggests the same.<sup>17-20</sup> We also had four patients who developed seizures following meningitis. This constituted four percent of all patients under study.<sup>21</sup> Among 100 patients, which were under study, 62% were males and 38% were females. 52 males had good control over fits while 10 patients did not respond to the treatment. Many of the studies done in the past were consistent with these findings. There were cases in the study done in the past in which patients developed fits following neurofibromatosis, tuberous sclerosis, protwine stain, subungual fibroma, and unfortunately we did not come across such patients. During the study, the aim was to study the prevalence of different factors which affect the control of fits. Following this study, we tried to correctly diagnose the seizure type and to select proper antiepileptic drugs. The patients were also educated with hand literature to cope with the disease. The outcome was encouraging. The seizures were then under control in the majority of the patients and in the rest at least the frequency of fits was decreased.

## CONCLUSION

It is concluded from our study that: Idiopathic Epilepsy is the commonest among etiology of fits almost (86%). Tonic clonic generalized epilepsy is the commonest type of presentation for Epilepsy (76%). The control of seizures can be improved by education/counselling of the patients.

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