

Study of clinical profile of refractory epilepsy

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Abstract

Background: Epilepsy describes a condition in which a person has recurrent seizures due to chronic underlying process. Around 5-10 % population will have atleast one seizure with the higher incidence in childhood and late adulthood. **Aim and Objective:** To study clinical profile of patients with refractory epilepsy. **Methodology:** Study was conducted in a tertiary care hospital on 40 patients admitted with refractory epilepsy. Detailed clinical examination and investigations were carried out. Data analysis was done with appropriate statistical tests. **Result and Discussion:** Maximum no. of patient were in age group of 21-30 years. Out of total 40 patients 57.5% were males and 42.5% were female patients. Head injury was most common accounting for 25% of total cases. Pallor was most common abnormality seen (30%). Majority of patient of refractory seizures had FS with dyscognitive features (50%) and GTCs was the second most common seizure accounting for 40% of total cases studied. 13 patients (that is 32.5%) had altered sensorium.

Key Words: refractory epilepsy.

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INTRODUCTION

Epilepsy known from time immemorial, has been shrouded in mysticism, till very recently, patients being considered either divine or more frequently socially discriminated against. Epilepsy is a group of conditions and not a single homogeneous disorder and seizure may be a symptom of both diverse brain disorders and an otherwise normal nervous system. In many patients with epilepsy, seizures are well-controlled with currently available anti-epileptic drugs. However, seizures persist in a considerable proportion of these patients. It is estimated that 20-25% of the epileptic patients fail to achieve good control with the different anti-epileptic drug treatments, developing refractory epilepsy¹. The causes of

drug resistant epilepsy are numerous, many due to abnormalities in brain maturation, severe brain injuries with resultant irreversible changes to cerebral neuroglial organization and inhibitory neuron function, kindling phenomenon, seizure-induced disturbances of oxygen supply, as well as acquired (or hereditary) changes in transporter proteins of the blood-brain barrier which function in the efflux of anti-epileptic drugs from the brain². In view of the above facts we conducted the study to study various clinical presentations

MATERIAL AND METHODS

Present cross sectional study was conducted in tertiary care hospital over a period of 1 year. The study population included 40 patients of refractory epilepsy admitted in our teaching Hospital. A written valid consent was taken from patients after explaining them about the study. All patients were assessed clinically in details for etiology, precipitating factors, prognostic factors, associated with refractory epilepsy. Exclusion of patient with well-controlled seizures was to be done. All the patients underwent following minimal investigations wherever necessary. Haemoglobin level, peripheral blood smear, urine examination, serum electrolytes. Study was approved by

ethical committee of the institute. Statistical analysis was done with appropriate statistical tests.

RESULTS

Table 1: Age wise distribution of cases in study group

Sr no	Age Group	No. of cases	%
1	13-20	10	25
2	21-30	18	45
3	31-40	6	15
4	41-50	4	10
5	>50	2	5
Total		40	100

The youngest patients was 14 years of age and eldest patients was 59 years old. Maximum no. of patient were in age group of 21-30 years.

Table 2: Sex wise distribution of cases in study group

Sr no	Sex	No. of cases	%
1	Male	23	57.5
2	Female	17	42.5
Total		40	100

Out of total 35 patients 57.5% were males and 42.5% were female patients.

Table 3: Distribution of patients according to risk factors

Sr no	Factors	No. of cases	%
1	Head Injury	10	25
2	H/o Status Epilepticus	3	7.5
3	Febrile Seizures	2	5
4	Mental Retardation	2	5
5	Psychiatric illness	1	2.5
6	Family H/o seizures	2	5
7	No identifiable risk factor	20	50
Total		40	100

50% of patients does not have risk factors and 50% had H/O of risk factors, out of them head injury was most common accounting for 25% of total cases.

Table 4: Distribution of general examination findings of total cases studied.

Sr no	General Examination Findings	No. of patients	%
1	Pallor	12	30
2	Fever	2	5
3	Edema	1	2.5
4	LN pathy	1	2.5
5	Nystagmus	1	2.5
6	Gum Hypertrophy	2	5
7	Skin Hyperpigmentation	1	2.5
8	Skin Hypopigmentation	1	2.5
9	Normal	19	47.5
Total		40	100

Most of the patients (47.5%) had no abnormal finding on general examination while pallor was most common abnormality seen (30%).

Table 5: Types of seizures (n=40)

Sr no	Seizure Types	No. of patients	%
1	Focal seizure	00	0
2	FS with dyscognitive features	20	50
3	FS without dyscognitive features	3	7.5
4	Primary Gen seizure		
5	GTCs	16	40
6	Myoclonic seizure	1	2.5
TOTAL		40	100

Majority of patient of refractory seizures had FS with dyscognitive features (i. e.CPS) as a presentation(50%) and GTCs was the second most common seizure accounting for 40% of total cases studied.

Table 6: Corelation between frequency of fits andno.of patients

Sr no	No. of Fits	No. of Patients	Percentage
1	>5/month	11	27.5
2	2-5/month	28	70
3	<2/month	1	2.5
Total		40	100

Maximum no. of patients of refractory epilepsy had H/O 2-5fits/month.

Table 7: Distribution of CNS examination findings in total cases (n=40)

Sr no	CNS Exam finding	No. of cases	%
1	Higher function	13	32.5
2	Altered sensorium	2	5
	Monoparesis	3	7.5
3	Normal	22	55
TOTAL		40	100

Majority of patients (55%) had no specific abnormality detected on CNS examination, while 13 patients (that is 32.5%) had altered sensorium.

DISCUSSION

In our study maximum number of patients presenting with refractory seizures were in between 2nd to 3rd decade as seen in table 1 this is consistent with age specific prevalence of seizures in developing countries. According to Daniel *et al*¹ highest incidence occurred in early childhood and late adulthood which is coinciding with present study. Also age distribution is quite similar with Indian study done by Murthy B.N.⁴ A younger age at onset of epilepsy predicts refractoriness. Seizures in the immature brain of a child may result in nonpruning of neurons and contribute to high numbers of gap junctions, which leads to abnormal connectivity, the hyper connected cortex (Koand Holmes, 1999)⁵. In present study males were affected more commonly (63%) than females (37%).indicating that prevelance of seizure more common in males which is similar with worlds most population based studies According to WHO atlas 2005^[6] incidence

rates worldwide are greater in men than women. Rudresh *et al* in 2008⁷, in his study of 70 patients showed that male were affected more commonly than female. There are multiple established risk factors for epilepsy including head injury, CNS infections, malignancy, family history and h/o febrile seizures. In our study we found 18 (51%) pts had no identifiable risk factors. H/O Head injury was the most common identifiable risk factor (22%) f/b H/O status epilepticus which is comparable with the study carried out by Annegers *et al*⁸. General examination was absolutely normal in 16 patients (45%), not contributory with respect to etiology of refractory epilepsy. Ropper *et al*⁹ and Daniel³ *et al* also mentioned that maximum patients general examination was not contributory finding. Pallor was the most common abnormality found accounting for 28% of pts. Gum hypertrophy was seen in 5% of patients, all taking phenytoin while only 1 pt had nystagmus. The most common findings on examination, however, are due to the adverse effects of AEDs (for example, nystagmus, ataxia or memory loss). Majority of pts with refractory epilepsy suffered from generalised tonic clonic convulsions (60 %) f/b complex partial seizures (28%). According to Ropper *et al*⁹ complex partial seizure is the most common seizure type followed by GTC and simple partial seizure. Sridharan *et al*⁶ in 2002 also showed that around 36% of patient had complex partial seizure as main clinical presentation. Maximum pts of refractory epilepsy (68%) suffered from more than 2-5 fits/month. f/b more than 5 fits /month (31%). High seizure frequency (more than 1 seizure per month) occurring soon after the diagnosis of epilepsy either before or after treatment onset correlates with refractoriness in the short term (2–4 years) and long term (30–35 years) (Berg *et al.*, 2001)¹⁰

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