



**ORIGINAL RESEARCH PAPER**

**General Medicine**

**CLINICAL PROFILE OF PARTIAL SEIZURES**

**KEY WORDS:** Partial Seizures ,ct Brain , Tuberculoma

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**ABSTRACT**

**AIM:** To study the age& sex distribution & etiology of partial seizures .To know the value of CT BRAIN for diagnosing its etiology  
**INTRODUCTION:** Epileptic seizures have been known since ages with known & unknown causes. Non invasive CT scan have made its way in diagnosing the exact site and etiology  
**MATERIALS & METHOD:** 60 patients with focal seizures were choosed excluding previous head injury & all basic investigations with CT BRAIN & EEG was taken  
**RESULTS :** In our study age predominance was more among 10-19 yrs & sex male> female , tuberculoma being the commonest etiology & CT scan showing 78% abnormality

**INTRODUCTION**

As early as 400B.C, Hippocrates wrote about epilepsy. Epilepsy is inherent abnormality of the brain to develop recurrent seizures. Seizure is due abnormal discharge from cortical neurons resulting in stereotyped movements, abnormal sensations & behavior. From the inventions of CT SCAN, MRI , EEG etiology have been identified particularly for focal seizures .We decided to study the age & sex distribution & etiology of partial seizures & usefulness of CT SCAN in identifying the cause.

**MATERIALS AND METHODS**

Under ethical guidance , 60 patients with history of focal seizures admitted in the Government Royapettah Hospital during the period of September 2009-2010 were included in the study. Patients with a history of recent head injury were not included.

A detailed history was taken & investigations carried out complete haemogram, blood sugar, urea and creatinine, serum electrolytes and chest x-ray, and also Mantoux test, sputum AFB, CSF examination and HIV/VDRL in relevant cases.

CT-BRAIN both plain and contrast enhancement were done in all cases and structural abnormalities like calcifications, granulomatous lesions, tumors, vascular anomalies, infarcts, haemorrhage, and infections were carefully looked and follow up CT SCAN was taken.

EEG were recorded in patients who had no CT abnormality or obvious metabolic abnormality to account for the seizures.MRI was taken in patients with normal CT SCAN & EEG

**RESULTS AND OBSERVATION**

**Age distribution of patients with focal seizures**

**Table 1**

AGE	SPS	CPS	SGS	NO OF CASES	Percentage (%)
10-19yrs	4	8	7	19	32
20-29yrs	3	2	9	14	23
30-39yrs	1	6	1	8	13
40-49yrs	2	3	5	10	17
50-59yrs	0	2	3	5	8
>60yrs	1	1	2	4	7

**Sex distribution of patients with focal seizures**

**Table 2**

SEX	SPS	CPS	SGS	NO. OF CASES	Percentage (%)
Male	5	16	20	41	68
Female	6	6	7	19	32

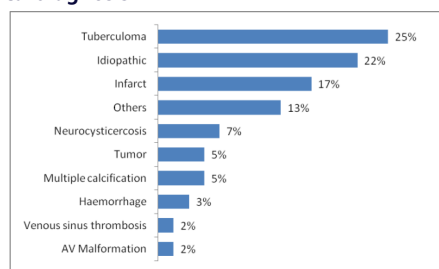
Of the 60 patients, EEG was recorded in 13 patients with normal CT scan. The findings were as follows

Normal record – 4  
 Abnormal record – 9

**Results of CT scan**

Results of CT scan	Number of cases	Percentage (%)
Normal	13	22
Abnormal	47	78

**Aetiologiical diagnosis**



**DISCUSSION**

Out of 60 patients with focal seizures, it was found that the highest incidence of focal seizures was from 10-19 yrs. There was a male to female ratio of 2.1:1.

The commonest clinical presentation of focal seizures was secondary generalized seizures (45%). In verma<sup>1</sup> series, he reported that majorities of his cases had secondary generalized seizures. Forsgren et al<sup>5,6</sup> in a population based prospective study of epileptic seizures in adults aged > 17 years found that two thirds of the patients had partial seizures, in 80% of these, seizures became secondarily generalized.

Of the patients registered, 15 patients (25%) had lesions in the parietal lobe. The commonest site of lesion was the parietal lobe. The next common being frontal lobe lesion in 11 patients (18%). It correlates with the study of kumar et al.<sup>2</sup>

In my study Tuberculoma was found to be the commonest etiology of focal seizures (25%), which goes according to the study done by Gulati et al.

Of the 60 patients registered neurocysticercosis was diagnosed in 4 patients. Though it is reported common in pork eaters, in this study all 4 patients were non-pork eaters.

10 (17%) of our patients had cerebral infarction which is the second most common cause of focal seizure. The single most common cause for seizures in adults is a scar from a previous CVA, or cerebrovascular accident

In the present study 3 (5%) patients had brain tumor as a cause for

their seizure. Seizures occur more frequently in supratentorial (22% -68%) than infratentorial (6%) lesions.<sup>4</sup>

5 (8%) patients had focal calcified lesion in CT scan and 3 (5%) of patients had multiple calcification in CT scan for which the possible etiology could not be made out. These cases could be due to any healed neuroinfections like tuberculomas or neurocysticercosis etc.

13 (22%) patients in our study had normal CT scan. EEG was taken for all these 13 patients. 9 patients had abnormal record and the remaining 4 patients did not show any abnormality on EEG.

Patients with focal seizures with a normal CT and a normal EEG should be further evaluated by MRI scan. 31 patients showed abnormalities on MRI of which 20 patients had temporal lobe epilepsy. MRI can detect hippocampal sclerosis which is the commonest cause of complex partial seizures. But its cost makes CTSCAN first line investigation.

### CONCLUSION

- The highest incidence of partial seizures was in 10-19 yrs age group.
- Male preponderance was noted in this study (68%).
- 78% of patients with focal seizures showed structural lesions on CT scan.
- Tuberculoma of the brain is the commonest cause of partial seizures
- The most common site of involvement of tuberculoma are parietal and frontal lobes and no infratentorial lesions were observed.
- The next common cause was cerebral infarction in 17% of patients.
- Since neuroimaging alone will not help exactly delineating between tuberculoma and neurocysticercosis other supportive clinical evidence must be taken in to account while arriving at a conclusion.
- MRI is more specific and sensitive, but CT scan remains the initial investigation of choice in making the etiological diagnosis of partial seizures.

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