



Original Research Article

A study of clinical evaluation of migraine and other seizure related headaches in patients with Epilepsy - a prospective, cross-sectional, observational study

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Introduction

Epilepsy and Migraine are the chronic disorders with recurrent neurological dysfunction associated with headache and autonomic, abdominal and psychotic features. In some patients it may be difficult to differentiate between migraine and the seizure episodes. Both are having comorbid symptoms and occurrence. Migraine patients can develop seizure and epileptics can have migraine attacks. Epileptologists proposed the hyperexcitability of the altered brain tissue, as the cause of seizure and migraine headache occurrence and vice versa. Enhanced hyperexcitability of cortical neurons and diminished threshold are the pathophysiological mechanisms enumerated in these conditions. Low magnesium in brain and the altered neurotransmitters are responsible for increased cortical excitability. Both the environmental as well as the genetic factors might cause these changes.

Aims and Objectives of Study

- 1) To study the incidence of various headaches which can occur perictally and interictally in

patients with known primary generalised epilepsy.

- 2) To evaluate the association of headache, with the seizure and its impact on the patient's lifestyle.

Methods and Materials

The present study had been conducted Geetanjali Medical College and Hospital, Rajasthan during the period between June 2023 and June 2024. The clinical details were obtained from the epilepsy clinic outpatient register/case sheets and patient interviews with the help of the priorly prepared proforma.

Study Design:

Prospective cross sectional observation study.

Period of study:

June 2023 to June 2024.

Study Population:

300 epileptic patients who attended the Epilepsy Outpatient Clinic, Geetanjali Medical College and Hospital, Rajasthan between June 2023 an June 2024.

Inclusion criteria

1. Patients registered at the Epilepsy outpatient clinic, Geetanjali Medical College and Hospital, Rajasthan
2. Known Patients with Primary Generalised Epilepsy.
3. Agreed to participate in the study.
4. More than 12 years of age.

Results and Analysis

In the present study which was conducted over 1year observation period, totally 248 patients (out of 300 recruited) completed the study and they were analysed. Their mean age was 36.30years and 123(49.60%) of them were female, and 125 were male (50.40%).Average duration of seizure disorder was 6.52yrs.The total number of patients developed headache was 72(29%) and without headache was 176(70.97%). The 72 patients developed headache, 27 were male and 45 were female patients.

Among the 10 patients developed headache in the interictal period 5 had migraine without aura and 2 developed tension type headache & 3patients presented with nonspecific headache.8 patients developed headache bothin the interictal and periictalperiod.Of them,4 had migraine with aura and 1 developed migraine without aura & 2patients developed tension type headache ,1patient had nonspecific headache.This also showed, that patients with migraine headache predominated the periictal period as well as the periictal+interictal period, in the present study.

Table 1 Sex Distribution

Total Male	125	50.40%
Total Female	123	49.60%
	248	

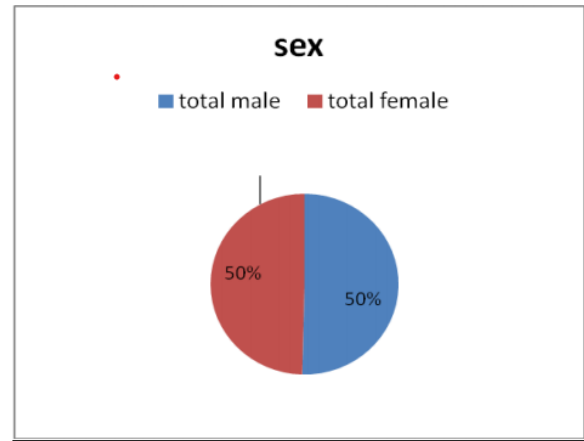


Table 2 Number of Persons with Headache

headache	72	29%
no headache	176	70.97%
	248	

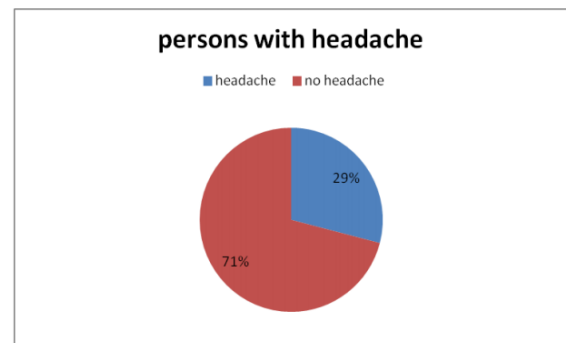


Table 3 Number of Persons with Headache in Relation with Sex

headache male	27	
headache female	45	
	72	29.00%

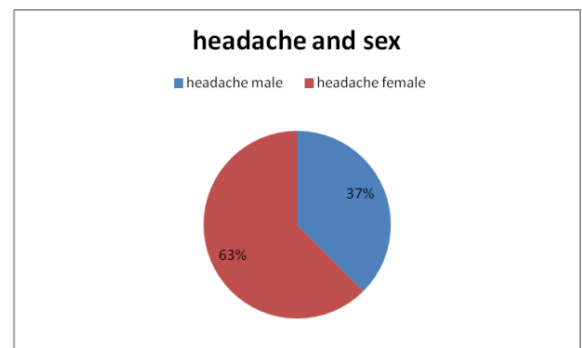


Table 4 Number of Patients with Headache in Relation to Seizure Period

Seizure period	Number of persons with headache	among total
inter ictal	54	21.7%
periictal	10	4.03%
inter +periictal	8	3.22%

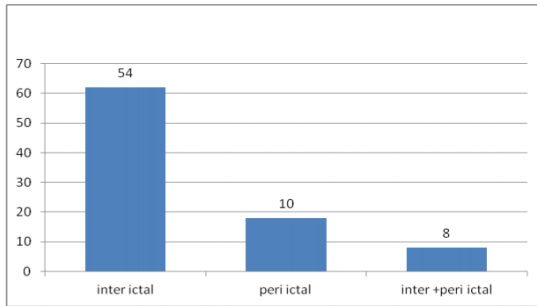
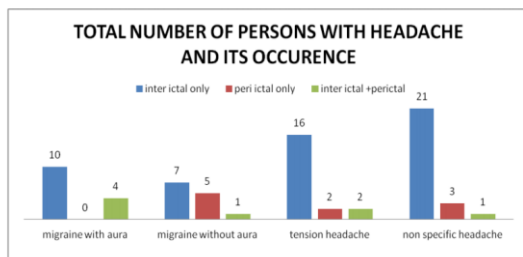


Table 5 Number of Patients with Headache in Relation to Seizure

type of headache	inter ictal only	periictal only	inter ictal +periictal	total	among total pts
migraine with aura	10	0	4	14	5.64%
migraine without aura	7	5	1	13	5.24%
tension headache	16	2	2	20	8.06%
non specific headache	21	3	1	25	10.08%
total	54	10	8	72	



Discussion

Epilepsy and Migraine are the chronic disorders with recurrent neurological dysfunction associated with headache and autonomic, abdominal and psychotic features. In some patients it may be difficult to differentiate between migraine and the seizure episodes.

Summary

- Total duration of observational study period →1year
- Total no of patients studied→248

- Total no of patients with headache→ 72 (29%)
- Total no of patients with Interictal headache→54 (21.7%)
- Total no of patients with periictal headache→10 (4.03%)
- Total no of patients with both interictal plus peri ictal headache→8 (3.22%)

The average headache episode per person was 3.09 during the study period. Total no of patients with headache 72:

Patients with Headache:

- 1) Migraine headache→ 27(10.88%)
 - Migraine with aura→14 (5.64%)
 - Migraine without aura→13 (5.24%)
- 2) Tension headache→20 (8.06%)
- 3) Non specific headache→25 (10.08%)

In the present study,patientswith migraine headache predominated theother type of headache like, tension type headache and other nonspecific headache. The frequency of migraine is more in the periictal period than in the Interictal period.

Conclusion

- 1) The present study showed the incidence of headache among the epileptic patients and its impact on their daily life.
- 2) In the present study, the headache incidence increases with the seizure frequency, which reiterates effect that, adequate seizure control is essential to reduce the incidence of headache inpatients with epilepsy.
- 3) Headache incidence in epileptic patients can be considerably ameliorated by choosing appropriate drug that will be useful for both seizure and headache.
- 4) This study demonstrates (HIT score) that seizure related headache is a common accompanying symptom of seizure, causes major impairment in daily life. Hence, by reducing the incidence of headache, we can

improve the quality of life in patients with epilepsy.

- 5) This study also suggests that migraine is a frequent comorbid disorder in patients with epilepsy and an important factor which affects the occurrence and type of seizure related headache.
- 6) The links between the epilepsy, seizure related headache and migraine are an important subject for future investigation.

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