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RESEARCH ARTICLE

EFFICACY AND TOLERABILITY OF ESLICARBAZEPINE ACETATE AS MONOTHERAPY IN PATIENTS OF NEWLY DIAGNOSED FOCAL EPILEPSY

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Abstract

This study was conducted at Department of Psychiatry, Teerthanker Mahaveer University, Moradabad. The aim of our study was to determine the efficacy and safety of Eslicarbazepine Acetate, observe its well-tolerated use and monitor adverse effects in newly diagnosed patients of focal epilepsy. A total of 30 newly diagnosed cases of focal epilepsy between 18-60 years, were studied for 6 months, using a semi-structured interview and Liverpool Adverse Events Profile. Majority of patients were males (58%), between 21-30 years. Patients with partial/focal seizures (63%) were more common than those of generalized seizures (37%).Majority of the participants had 1-2 episodes of focal seizures weekly (48%), while some had almost daily (32%). Majority were on Eslicarbazepine Acetate 800mg in two divided doses daily (64%), while the others received 1200 mg in divided doses (32%). The mean Liverpool Adverse Events Profile score initially was 28.34 ± 6.28 which significantly improved after 4 weeks treatment to 22.80 ± 4.35 ($p < 0.05$). The improvement in newly diagnosed focal seizures patients was significantly more than other patients ($p < 0.05$).No major side effects were observed.Therefore, better results of this drug are found in newly diagnosed focal epilepsy patients.

Introduction:-

Epilepsy is a common neurological disorder affecting nearly 70 million people worldwide [1]. There are approximately 10 million patients with epilepsy in India which accounts for almost 1% of the total population [2]. The condition is defined as occurrence of at least two unprovoked seizures 24 h apart [3]. Seizures have been classified as generalized seizures (involving both hemispheres of brain) and focal seizures (initiating activation of only single hemisphere of the brain), earlier known as partial onset seizures [4].

Seizures remained uncontrolled in about one-third of patients inspite of introduction of new AEDs over the past three decades [5]. It is important to develop new AEDs that are effective, well tolerated and safe with minimal adverse effects and drug–drug interactions. Once-daily dosing can optimize patient compliance [6].

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Eslicarbazepine (ESL) is a novel Anti-epileptic drug (AED), which has been approved as monotherapy for focal onset seizures, with or without secondary generalization in adults, it has shown inspiring results [7].

ESL belongs to dibenzazepine carboxamide family. It is structurally differentiated from Carbamazepine [8]. This metabolic change may be responsible for the safer profile of ESL, minimizing the enzymatic induction of the cytochrome P450 system and auto induction [9]. The drug is generally well tolerated and adverse effects are Dizziness, headache and diplopia. Thus, it has been proved efficacious in treatment of focal seizures with a good safety profile. One of the greatest strengths of Eslicarbazepine Acetate is its ability to be administered once or twice per day which may help promote patient adherence. [10]

Aim

To review efficacy, safety and tolerability of Eslicarbazepine acetate (ESL) as monotherapy in patients with newly diagnosed focal epilepsy and evaluate the occurrence of adverse effects associated with Eslicarbazepine Monotherapy.

Methods And Materials:-

This analytical study has been conducted in a general hospital setting, Department of Psychiatry, Teerthanker Mahaveer Medical College and Research Center, Moradabad. We have taken 30 OPD cases of newly diagnosed Focal epilepsy by convenience sampling method. A semi-structured proforma was applied for recording the socio-demographic details, psychiatric and other relevant medical history. The Liverpool adverse events profile (LAEP) was applied for evaluation of adverse effects associated with monotherapy of Eslicarbazepine Acetate. Assessments includes responder rate (≥50% seizure frequency reduction), seizure freedom rate (seizure freedom at least since prior visit) and incidence of adverse events. The collected data was entered in Microsoft excel 2013. Data was analyzed using SPSS version 22 and Epi-Info 7.2.1.

Ethical clearance was taken from the Institutional Ethics Committee.

Results:-

Majority of our patients were males 19 (63.33%), and rest 11 were females (36.67%) There were 9 participants from age group 11-20 years (30%), 16 cases were between 21-30 years age (53.33%) rest 5 cases were from the age group of 31-40 years (16.67%).

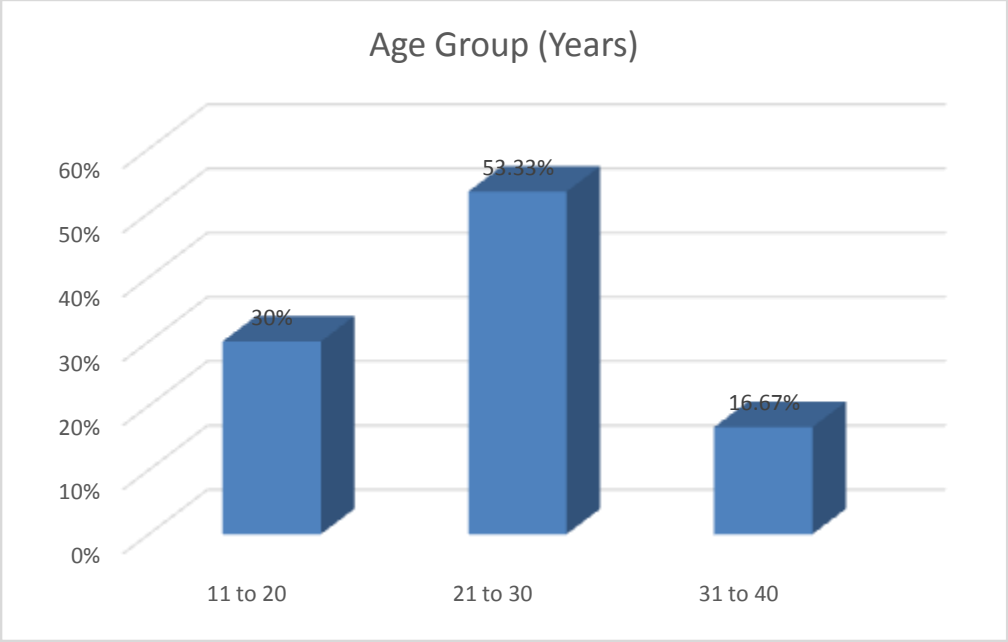

Fig 1:- Age group.

We had 16 unmarried patients (53.33%) and 14 married patients (46.67%).

There were 23 Hindu (76.67%) 7 Muslim (23.33%) participants in our study.

Regarding education status of the patients, we had majority of the patients from HSC/ undergraduate level with 12 cases (40%). We had 2 illiterate patients (6.67%), 7 who had primary level education (23.33%), 5 had SSC (16.67%) while 4 of our patients were graduates (13.33%).

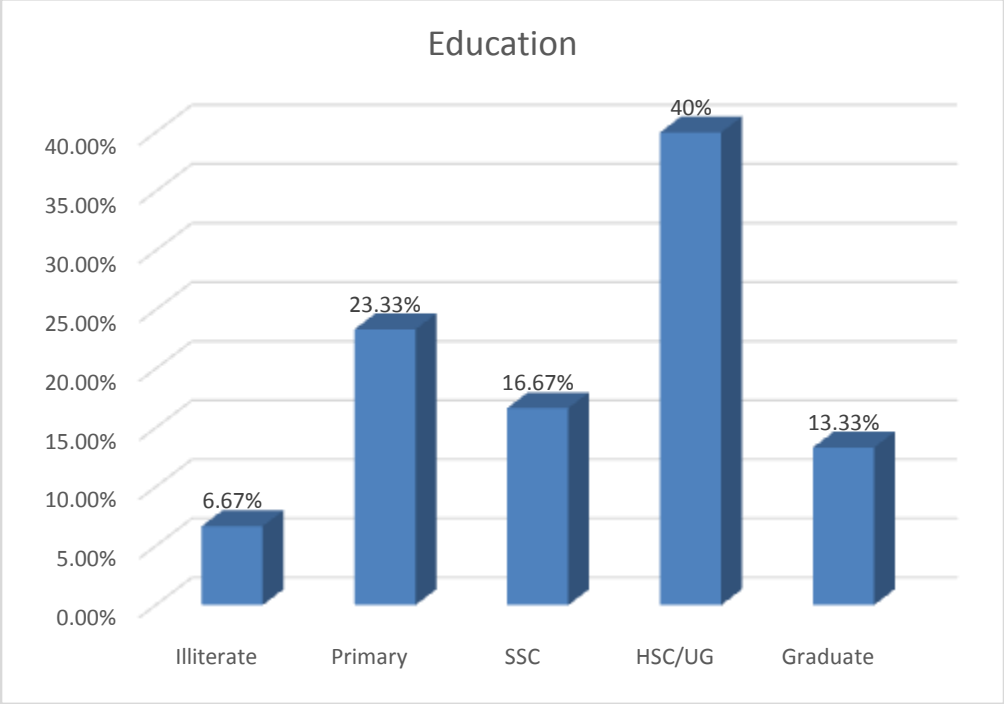

Fig 2:- Education level of participants.

We had majority of the participants from Lower economic class with 17 cases (56.67%) and 13 from middle class (43.33%). Majority of the patients, 22 cases (73.33%) were from rural areas and 8 cases (26.67%) were from the urban areas.

Patients with partial/focal seizures 19 (63.33%) were more common than those of generalized seizures (36.67%).

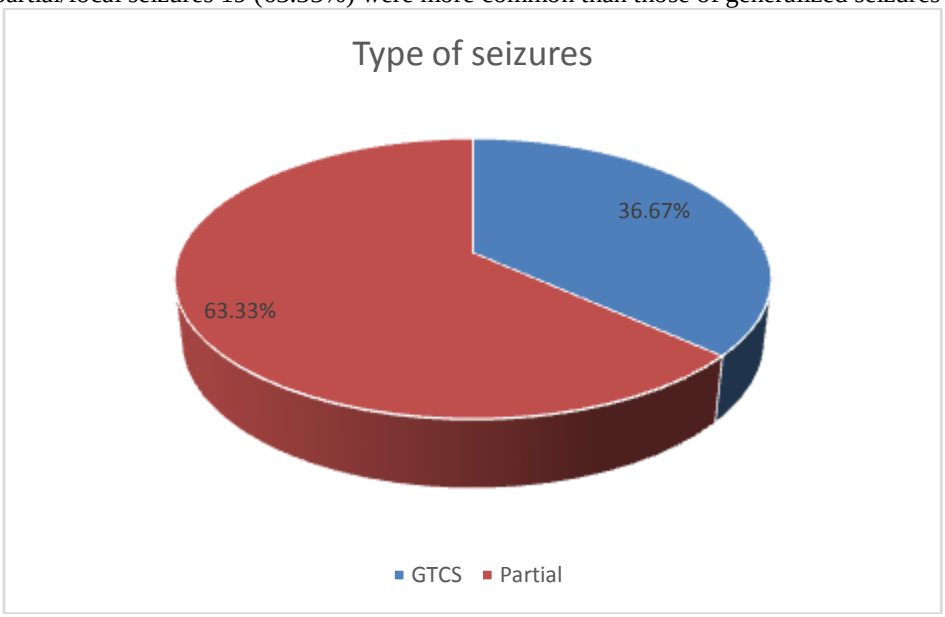

Fig 3:- Type of Seizures.

Over a period of last 6 months, 11 people had GTCS seizures around twice a day (36.67%), 6 people had it around 2-3 times a week (20%) and 2 people had it for less than once a week (6.67%). 11 cases didn't experience any GTCS (36.67%) over last 6 months.

16 patients had a history of non-convulsive episodes over 6 months, out of which 8 people (26.67%) had it once or twice a week, 6 people had it 2-3 times a month (20%) and 2 people for once a month (6.67%). 14 cases didn't have any Non-convulsive seizure episodes in 6 months (46.67%).

Table 1:- Non-convulsive seizure episodes over last 6 months.

Frequency of Non-convulsive episodes	Number	Percentage
Once or twice a week	8	26.67%
2-3 times a month	6	20%
Around once a month	2	6.67%
No Non-convulsive seizures	14	46.67%

17 patients received Eslicarbazepine 800mg divided in two doses a day (56.67%) and 13 were given 1200mg in three divided doses a day (43.33%).

Table 2:- Mean Liverpool Adverse Events Profile Scores at start & post 4 weeks:

	Scores at start	Scores post 4 weeks	P value
GTCS	28.45 ± 3.29	23.00 ± 1.73	< 0.001
Partial	28.52 ± 2.65	22.73 ± 2.40	< 0.001
Total Patients	28.50 ± 2.85	22.83 ± 2.15	< 0.001

The total score of all the patients at the start of the treatment was 28.50 ± 2.85 which reduced significantly after 4 weeks of treatment to 22.83 ± 2.15 ($p<0.001$). The scores of patients with GTCS & partial seizures also reduced significantly from pretreatment to post 4 weeks of treatment. ($p<0.001$)

The improvement in newly diagnosed focal seizures patients was significantly more than other patients ($p < 0.05$). No major side effects were observed in our study participants.

Discussion:-

Giraldez BG, Toledo M, et al. conducted a multicenter retrospective study in Spain in 2014, where 253 patients with partial-onset epilepsy were observed for a year. All of these patients failed in their first trial of Anti-epileptic drug monotherapy, so subsequently they were put on ESL monotherapy. 62.3% of them had experienced no seizures for the last 6 months and 37.3% had no seizures for a year [11]. Our study also found a significant decrease in seizure episodes after the monotherapy of Eslicarbazepine, 11 cases didn't experience any GTCS (36.67%) over last 6 months and 14 cases didn't have any Non-convulsive seizure episodes in 6 months (46.67%).

Correia et al.,[12] discussed a retrospective, single-center (Portugal), 2-year observational study. Here, ESL appears to be a clinically useful anti-epileptic drug with good safety profile and high retention rates throughout 2 years.

Massot et al.,[13] in 2014 conducted a single-center cross-sectional study in Spain which demonstrated that ESL was effective in the treatment of focal epilepsies and its early retention rate is >70%. Both studies had reported safety of the drug in treatment of seizure disorders, similar to our study where we found no any serious side effects of the drugs and patients tolerated even 1200mg dose of the drug in a day very well.

A study of Eslicarbazepine acetate monotherapy- ESLI-BASE [14] included 815 patients having newer onset of partial seizures. The proportion of patients who were seizure free for at least 6 months was 71.1% in the ESL group. Moreover, 64.7% of patients on ESL did not experience seizures, compared with 70.3% on carbamazepine. Hence, this inferred that ESL once daily was not inferior to twice daily carbamazepine in patients recently diagnosed with epilepsy.

Trinca E. et al.,[15] in 2018 observed that the percentage of patients who were seizure free for at least 6 months was 71.1% in the ESL group and 75.6% in the carbamazepine group, respectively [15]. Our study also observed a significant number of patients had reduced the number of seizures in last six months.

In 2018, Jalihal V, et al., [16] showed that in patients, ESL was tolerated well and did not produce significant PBSEs in comparison to Levitracetam therapy.

All these studies reported the safety and efficacy of Eslicarbazepine as an anticonvulsive monotherapy, which is observed in our study, with significant reduction in number of siezures and reduction in Mean Liverpool Adverse Events Profile Scores after the treatment. ($p<0.001$)

Conclusion:-

We observed that Eslicarbazepine as a monotherapy was effective in controlling seizure disorders in newly diagnosed focal epilepsy patients. There were no any major side effects of the drug even after 6 months of re3gular treatment and patient tolerance and acceptance of the drug was found to be satisfactory. We recommend further research in the topic to confirm our study findings.

Conflict of Interest:
None.

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This was a self-funded study.

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