e-ISSN: 2249-7625
Print ISSN: 2249-7633

International Journal of
Pharmacy Practice & Drug Research
www.ijppdr.com

A COMPARATIVE STUDY OF REMISSION OCCURRENCE IN THE MONO AND ADD ON THERAPIES DURING THE TREATMENT OF EPILEPTIC SEIZURES AND THE EVALUATION OF PATIENTS KNOWLEDGE ON FIRST AID IN TERTIARY CARE TEACHING HOSPITAL

Hemasri Manepalli* and Dinesh Manepalli

Department of Pharmacy Practice, Aditya Institute of Pharmaceutical Sciences and Research, Government General Hospital, Kakinada, Andhra Pradesh-533001, India.

ABSTRACT

Present study was undertaken to understand the treatment outcome of AED's observed in neurology unit of a teaching hospital. To study the choice of AED's in the treatment of Epileptic seizures & evaluate the patient's knowledge on first aid. To identify the various precipitating factors & emotional symptoms, To assess the side effects caused by the drugs, To know about the choice of AED's in treatment of Epileptic seizures. Method includes data from the patient data collection form & drug profile to understand the indications for AED's use with respect to reoccurrence & outcome measures were analyzed. Management strategies employed for the treatment plan of AED's as in a reasonable dose, single or two drug therapy this will involve deciding upon which drug to introduce, which drug to withdraw, and which drug to retain. In this study the percent of recurrence of seizure is gradually decreased in range of 33.3%, 26%, and 14.8% for every 6 months. In this study we found that remission (55.5%) had achieved most often due to mono therapy because mono-therapy is the goal whenever possible. By comparing the remission between two therapies, the result was statistically significant ($p < 0.05$). The vast majority of patients had remission by mono-therapy treatment Co-operation between the patient, physician & pharmacist results in the best outcome.

Keywords: Mono-therapy, Epileptic seizures, reoccurrence, remission.

INTRODUCTION

While the evaluation and treatment of patient with seizures (or) epilepsy is often challenging. Modern therapy [1] provides many patients with seizure control. After a first seizure evaluation should focus on excluding an underlying neurologic or medical condition assessing the relative risk of seizure reoccurrence [4] & determining whether treatment is indicated. Successful management of patient with recurrent seizure [2, 20] begins with the establishment of accurate diagnosis of epilepsy syndrome [18] fallowed by treatment using an appropriate medication in a manner to optimize the efficacy. The goal of AED's therapy is to completely control seizures with producing un acceptable medication [21] side-effects. Patients who do not achieve complete seizure control should refer to an epilepsy specialist since new medication and surgical treatment offers patients unprecedented options in seizure control.

Topics for information provision and counseling newly diagnosed epileptic patients and principles of treatment in chronic epilepsy help in designing steps to improve the safety of drug use in the hospital working setup. Better health care practice could be ensured by applying this knowledge to individual patients.

Present study was undertaken to understand the treatment outcome of AED's observed in neurology unit of a teaching hospital with regarding to demographics of

Corresponding Author:- **Hemasri Manepalli** Email : hema.manepalli@gmail.com

patients, choice of prescribed AED's, usual dosing regimens and faster routine incremental and decremental rates, management of seizures& identify precipitating factors [19] of epilepsy. The holy grail of epilepsy, an AED that is 100% effective but has no adverse-effects or drug interactions, remains effective. So how should we choose which AED's to give 1st and if that fails which should be tried next?

AIM

To study the comparison between the remission occurrence while giving therapies(Mono/Add on) including AED's in the treatment of Epileptic [14] seizures & evaluate the patients access to medical care who were under the treatment of Neurophysician in the General Medicine department of Government general hospital, Kakinada.

OBJECTIVES

To identify the various precipitating factors & emotional symptoms, To assess the side effects caused by the drugs, To know about the choice of therapies(Mono/Add on) including AED's in treatment of Epileptic seizures, To evaluate the respondents access to medical care belongs to regional and urban population.

METHODOLOGY

Study site: General Medicine Department of Government General Hospital Kakinada.

Study duration: 8 months (August 2014- March 2015)

Study design: Mono-therapy & Add- on therapy [7] treatment.

Duration of treatment

Minimum of 3 months duration is required.

Dosage

Valproate [3] (DEPAKINE): 200mg/day, twice a day.
Oxcarbazepine [4] (TRILEPTOL):600mg/day, twice a day.
Levitiracetam(KEPPRA) : 125mg/day, twice a day.

Inclusion criteria

- Newly diagnosed & established patients in Neurology department for management [17] of epileptic seizures.
- Age more than 16 years.

Exclusion criteria

- Patient referred to Neurology department for evaluation.
- Patients visiting on outpatient basis.

Operational modality

Data from the patient data collection form & drug profile to understand the indications for AED's use with respect to demographics, type of seizures, characteristics of drug involved & diagnosis time, recurrence, precipitating factors & outcome measures were analyzed. Further, any possible impact of epilepsy [5, 6] on age group was assessed. Management strategies employed for the treatment plan of AED's as in a reasonable dose, single or two drug therapy this will involve deciding upon which drug to introduce, which drug to withdraw, and which drug to retain. There is often nihilistic inertia in much of the treatment of epilepsy which should be resisted, and an active and logistic approach to therapy can prove very successful.

RESULTS

In the present study from the Table 1out of 54 cases taken from neurology ward, 34 (63%) were males & 20 (37%) were females. Table 1 and Figure 1reveals that majority of AED's prescribed as Mono-therapy were Oxcarbazepenes (26%) fallowed by (22.2%) of Valproate [11] & (18.5%) of Levitiracetam [22] were prescribed.

Table 3 and Figure 3 had shown that recurrence of seizures in study population. In the study of 54 cases from the neurology ward from the time of diagnosis,74% of patients had a recurrence of their attacks [10]. The risk of recurrence is high initially and then falls over time. In the study the risk after 1st seizure was 33.3% in the initial 6 months,26% in next 6 months & 14.8% in the next 6 months.

Table 4and Figure 4 reveals that the outcome of emotional symptoms in study population .maximum %of patients shows outcome of Anxiety 16(29.8%) fallowed by depression 10(18.5%) & 4(7.4%) patients were grouped under migraine**.**

Table 5 In this study out of 54 cases taken from neurology ward ,22(40.7%) patients have knowledge about first-aid of seizures & remaining 32(59.3%) patients don't know how to respond when it comes.

Table 6 and Figure 6 had shown the remission occurs in study population. Maximum % of patients 30(55.5%) get remission by mono-therapy [13, 16, 23] where as 10(18.5%) patients by add-on therapy [15, 16]. By comparing the remission between two therapies, the result was statistically significant ($p < 0.05$), patients who get highest positive results were present in monotherapy it seems.

Table 1. Anti epileptic drug prescription pattern (Mono-therapy)

S.no	Prescribed AED's	No.of patients	% Prescription
1	valproate	12	22.2
2	oxcarbazepene	14	26
3	Levitiracetam	10	18.5

Table 2. Anti epileptic drug prescription pattern (Add on-therapy)

S.NO	Prescribed AED's	No. of patients	%of prescription
1	O+L	4	7.4
2	V+O	6	11.11
3	L+V	8	14.8

L-Levitriacetam O-Oxcarbazapine V-Valproic acid

Table 3. Recurrence of seizure in the study population

S.NO	Time from 1st seizure	No.of patients	%of recurrence
1	0 weeks	40	74
2	24weeks	18	33.3
3	48weeks	14	26
4	72weeks	8	14.8

Table 4. Outcome of emotional symptoms

S.No	Emotional symptoms	No.of patients	%of Emotional symptoms
1	Anxiety	16	29.8
2	Depression	10	18.5
3	Mood disturbance	9	16.6
4	Migraine	4	7.4
5	Behavioral disorder	9	16.6
6	None	6	11.1

Table 5. Knowledge of First Aid in the study population

S.NO	Knowledge of first-aid	No. of patients	%0f population
1	Yes	22	40.7
2	No	32	59.3

Table 6. Remission occurred during treatment

S.NO	Remission during therapy	No.of patients		%of Remission	
		(+)	(--)	(+)	(--)
1	Mono therapy	30	6	55.5	11.1
2	Add-on therapy	10	8	18.5	14.8

Fig 1. Antiepileptic drug prescription pattern (Mono-therapy).

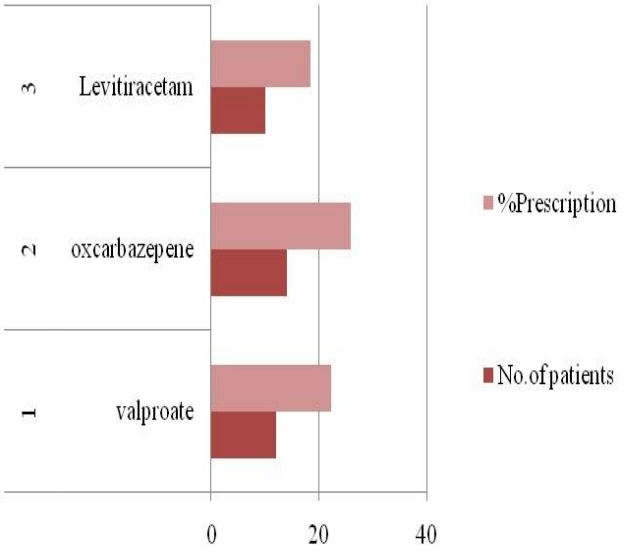


Fig 2. Antiepileptic drug prescription pattern (Add on-therapy)

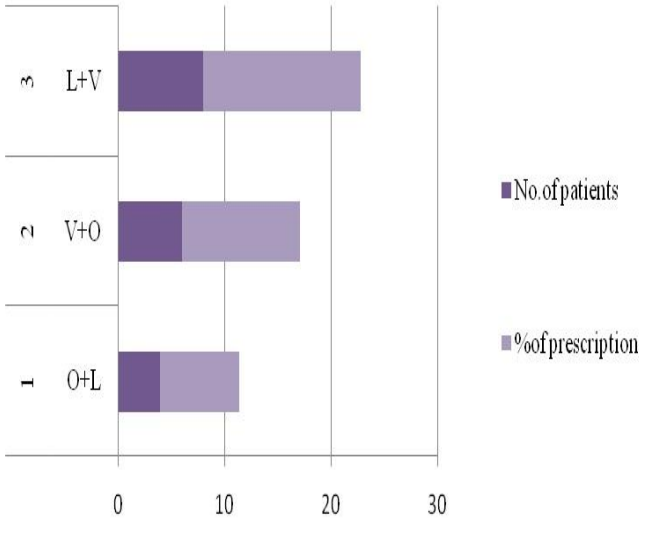


Fig 3. Recurrence of seizures after first treatment

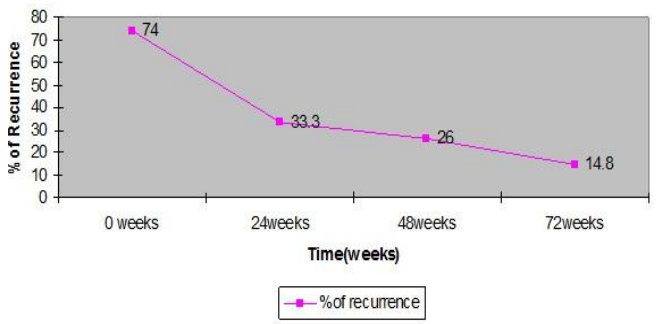


Fig 4. Outcome of emotional symptoms

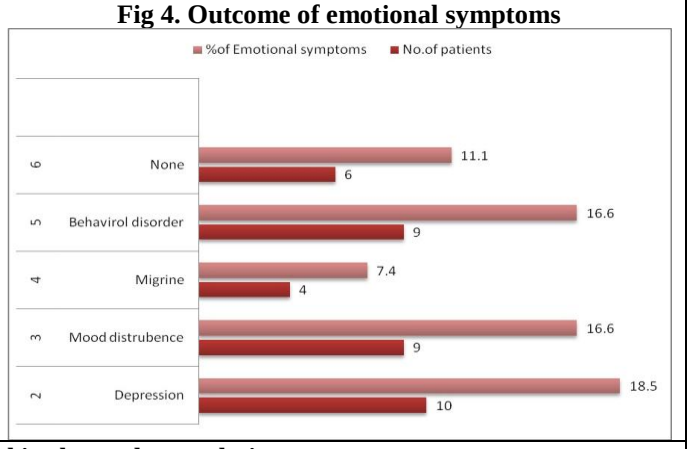
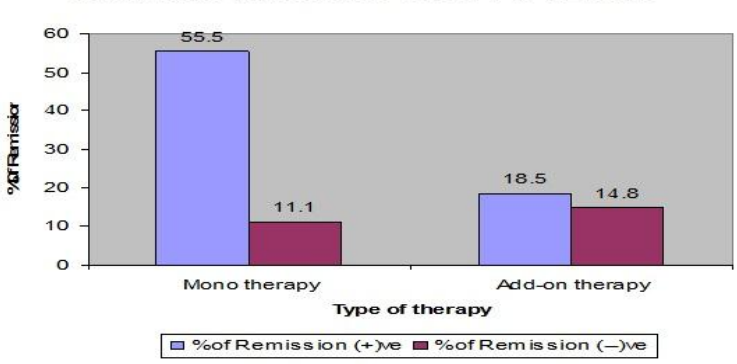


Fig 5. Remission occurred in the study population



DISCUSSION

The concept of treatment of seizures with modern therapy is relatively new in India. Due to rapid growth in population, general lack of education, health awareness & socio-economic status (poverty). In developing countries the neurology treatment is become burden to the people. There is no racial, geographical or social class boundaries seizures occurs in both genders, at all ages ,especially in childhood, adolescents & increasingly in ageing population. While the condition can have profound physical & psychosocial consequences, appropriate treatment can in most instances prevent long term damage. While there is no cure for the condition there are various ways- people can control or manage symptoms to improve their quality of life particularly if the condition is identified and managed early.

In this study a total of 54 patients comprising 34 (63%) males & 20 (37%) females (table 1) were selected from the department of GeneralMedicine, Government General Hospital, Kakinada, and A.P. In the present study a wide spectrum of cases were encountered including CPS, GTCS, ABS. In the present study the % privilege of male patients is high when compared with female patients in the study population.

Generally most of the seizures effectively treated with Anti-epileptics [24,25] & Anticonvulsants. These are prescribed according to the patient clinical response. At present according to the diagnosis following drugs were given Valproate (22.2%),oxcarbazepine (26%), levetiracetam (18.5%) to the patients as mono-therapy treatment based upon their seizure frequency (table-1). Secondarily if the first given

AED didn't show effective result then choose Add-on therapy for getting effective results. In this therapy second drug is added in low doses & then gradually first AED dose was decreased & second drug is then further optimized based on seizure response. Among the different types of AED's combinations [12] in the present study O+L (7.4%),V+O (11.11%),& L+V(14.8%) were given to the patients as Add-on therapy (table2) in the study population.

Although few studies were conducted specifically in patients with seizures who are using AED's in high doses, they found most common side-effects were occurred. So most of the Anticonvulsant drugs were needed to be introduced relatively slowly to minimize side-effects such as somnolence, fatigue etc. After first treatment of seizure the recurrence should be effectively controlled by using successful management. In this study the percent of recurrence of seizure is gradually decreased in range of 33.3%, 26%, and 14.8% for every 6 months (table3).

In this study we found that remission (74%) had achieved most often due to mono therapy because mono-therapy is the goal whenever possible. The possibility of using Add-on therapy is rare in the study population because most of the patients got remission by mono-therapy itself.

All patients were counseled with the help of quality care check list form, during the counseling when I came to know about their awareness regarding self care and First-aid (table5). Results in 32(59.3%) population don't have proper knowledge and some have little bit of knowledge 22(40.7%), (table6).

CONCLUSION

The incidence of epilepsy is 24-53% of population in developing countries. However over 30% of people with epilepsy or seizure don't have seizure control even with the best available medications.

AED's therapy is the main stay of treatment for most patients with epilepsy. The overall goal is to completely prevent seizures without causing any untoward side effects, preferably with single medication [8] & a dosing schedule [9] that is easy for the patient to fallow. Because the response to any anti-epileptic drug is unpredictable so patient should be carefully educated about approach to therapy. The vast majority of patients had remission by mono-therapy treatment Co-operation between the patient, physician & pharmacist results in the best outcome.

Tips regarding First Aid for making the people physically and mentally ready to help the people who were getting sudden occurrence of seizures. By this we can get tremendous change in reducing Sudden Unexpected Deaths in Epilepsy (SUDEP) and we were succeeded in achieving our main goal to maximize the quality of the life by minimizing the seizures activity.

REFERENCES

1. Biton V, Mirza W, Montouris G, Vuong A *et al*. *Neurology*, 56, 2001, 172–7.
2. Gilliam F. Limitations of mono-therapy trials in epilepsy. *Neurology*, 60, 2003, 26.
3. Mattson R, Cramer JA & Collins J. *New England Journal of Medicine*, 327, 1994, 765–71.
4. Aicardi J, Shorvon SD. Intractable epilepsy. In: Engel J, Jr, Pedley TA, editors. Epilepsy: a comprehensive textbook. Philadelphia. *Lippincott-Raven Publishers;* 1997, 1325- 31
5. Manford M, Hart YM, Sander JWAS, *et al*. *Arch Neural*, 49, 1992, 801–8.
6. NICE. Newer drugs for epilepsy in adults, 2004.
7. Montenegro M, Cendes F, Noronha A *et al*. *Epilepsia*, 42, 2001, 539–42.
8. Scottish Intercollegiate Guidelines Network, *the Diagnosis and Management of Epilepsy in Adults*. Royal College of Physicians,Edinburgh, 2004.
9. Walker M & Fisher A. In: *The Treatment of Epilepsy*, 2003, 96–119.
10. Chong JY, Rowland LP, and Utiger RD. *Arch Neural*, 60, 2003, 164–71.
11. Cleary P, Shorvon S, and Tallis R. *Lancet*, 363, 2004, 1184–6.
12. Brodie MJ & Yuen AWC. *Epilepsy Research*, 26, 1996, 423–32.
13. Mattson RH, Cramer JA, Collins JF, *et al*. *Neurology*, 60, 2003, 196-202.
14. Gilliam FG, Veloso F, Bomhof MA, *et al*. *Neurology*, 60, 2003, 196-202.
15. Binnie CD. Lamotrigine. In: Engel J, Pedley TA, editors. Epilepsy: A comprehensive textbook. Philadelphia:*Lippincott-Raven*, 1997, 153-154.
16. Pimentel J, Guimaraes ML, Lima L, Leitao O, Sampaio MJ. *J Int Med Re*, 27, 1999, 148-57.
17. Jozwiak S, Terczynski A. *Seizure*, 9, 2000, 486-92.
18. Shorvon SD. General principles of treatment of epilepsy. In: Shorvon SD, editor. Handbook of epilepsy treatment. *Oxford: Blackwell Science*, 2000, 34-112.
19. Hauser AW. The natural history of seizures. In: Wyllie E, editor. The treatment of epilepsy: principles and practice. *Philadelphia: Lea & Febiger*, 1993, 165-70.
20. Juul-Jensen P. Epidemiology of intractable epilepsy. In: Schmidt D, Morselli P, editors. Intractable epilepsy. *NewYork*, 1986, 5-11.
21. Kwan P & Brodie MJ. Yearly identify action of refractory epilepsy. *New England Journal of Medicine*, 342, 314–9.
22. Ramsay RE. *Epilepsia*, 34(5), 1993, S9–16.
23. Frenc J, Arrigo C, Rapid Onset of Action of Levetiracetam in Refractory Epilepsy Patients. *Epilepsia*, 46, 2005, 2–324.
24. Beydoun A, Kutluay E. *Neurology*, 60, 2013, S13–25.
25. Kwan P, Sills GJ, Brodie MJ. *Pharmacology There*, 90, 2001, 21–35.
26. Marson AG, Chadwick DW. New drug treatments for epilepsy. *J NeuralNeurosurgeryPsychiatry*, 70, 2001, 143–48.