A Study on Drug Prescription Pattern of Antiepileptic Drugs (AEDs) at a Tertiary Care Hospital in North Eastern India

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Sir,

We conducted a study to evaluate the effective use of antiepileptic drugs (AEDs) in the management of various types of epilepsy at Tertiary Care Hospital in North Eastern India.

The present study was a prospective observational study conducted in patients referred to Comprehensive Epilepsy Care Unit of GNRC Hospital, Guwahati, Assam, for a period of six months. Confirmed diagnosis was done by VEEG, signature EEG in some cases, MRI findings and neuropsychological findings in some cases. AEDs were prescribed according to the epilepsy pattern and were followed for 02 months. In our study 100 patients were enrolled with 50 male and 50 female. The highest number (47%) of patients was presented with childhood epilepsy with 45% experienced early onset of epilepsy before the age of 5 yrs. The reason for childhood epilepsy can be contributed to inadequate antenatal and post natal care in these areas. Assam is also reported to exhibit a high rate of Infant mortality rate as per an ICMR 2017 report on health of the Nation. Childhood and adolescent epilepsy consisted of cases of benign rolandic, absence epilepsy, benign occipital lobe epilepsy, reflex epilepsy (Prevalence rate- 4-7%) and juvenile myoclonic epilepsy.

Out of the 100 patients, 72 cases were new epileptic. 90 patients showed evidence of positive EEG mainly focal, generalized, multifocal, in a some cases both focal and generalized epileptiform activity and 31 showed positive MRI findings such as hypoxic ischemic changes especially in young child, gliosis, mesial temporal sclerosis, cysticercosis, changes due to cerebrovascular accidents. Monotherapy was received by 67 while 37 were on polytherapy. Further, 37 subjects showed failure to monotherapy as also observed in SANAD trial, probably due to heterogeneity in response to treatment, they were given then given polytherapy post three weeks of initiation of treatment.

The overall AEDs utilization showed that Oxcarbazepine, Sodium valproate and Divalproex sodium were the most commonly prescribed. Levetiracetam, from newly AED, had been the most frequently in combination may be due to its perfect pharmacokinetic profile resulting in excellent bioavailability and therapeutic effect. Most commonly used polytherapy was Clobazam, Sodium valproate with Lamotrigine. Clobazam has been the most frequently used as an adjuvant therapy. In cases of Refractory epilepsy with static encephalopathy, response rate was not satisfactory even with polytherapy. Oxcarbazepine was the drug of choice for focal epilepsy. Sodium valproate was the most commonly used in generalized epilepsy. In cases of Static encephalopathy, polytherapy with Sodium valproate and Clobazam, Sodium valproate, Lamotrigine and Clobazam, Levetiracetam and Sodium valproate were used. It was also seen that in Juvenile myoclonic epilepsy, Clonazepam with Sodium valproate or Divalproex sodium was the drug of choice. In benign rolandic epilepsy, Sodium valproate and or Oxcarbazepine, showed good effects. In partial epilepsies like benign occipital epilepsy and reflex epilepsy, Oxcarbazepine/Carbamazepine was the drug of choice. In cases of refractory epilepsy, refractory reflex epilepsy and refractory west syndrome, course of corticosteroids were found with good response.

Follow up showed 77 patients responded well to the treatment as indicated by decrease in seizure frequency and seizure duration and improving quality of life. Ten patients who unresponded to the AEDs treatment could be because of discontinuation of the therapy due to poor compliance.

Thus it can be concluded that that correct classification of epilepsy with the aid of multiple diagnostic tools is important for prescribing the appropriate AEDs and subsequent seizure control.

References