Original Article

Patients' preferences towards antiepileptic drug therapy following first attack of seizure

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Background: Antiepileptic drug (AED) therapy following first unprovoked seizure is controversial. **Aim:** To study the patients' preferences towards AED therapy following first unprovoked generalized tonic clonic seizure (GTCS). **Design:** Prospective cohorts with one year follow-up study. **Setting:** Government teaching hospital, a tertiary care center. **Materials and Methods:** Patient cohort included patients with first attack of unprovoked GTCS within 30 days of onset, aged between 18-60 years and with normal brain CT scan. Counseling was done for all the patients and the relatives regarding seizure recurrence, duration and adverse effects of AED therapy if preferred. Patients were encouraged to make their own decision in preferring or deferring AED with reasons. They were followed up for one year. **Results:** Of the 73 enrolled (54 males and 19 females) 39 (53%) preferred to go on AED therapy. The reasons for preferring AED therapy were; (a) fear of seizure recurrence, 21 (54%); (b) risky occupation, 14 (36%); and (c) fear of injury, 4 (10%). The reasons for deferring were: (a) fear of adverse effects of long-term AED therapy, 19 (56%) and (b) preferring to wait for the second attack, 15 (44%). All the patients were happy about being involved in the decision-making. **Conclusion:** Following first attack of unprovoked GTCS the decision regarding AED therapy may be taken by the patients and their family members after adequate counseling and such decisions have more relevance from their perspective.

Key words: Antiepileptic drug, counseling, Generalized tonic clonic seizure

Introduction

The incidence of first unprovoked generalized tonic clonic seizure (GTCS) in the community is about 5%.[1,2] Among them 27 to 36% develop recurrence over a period of three years and one-third of them within the first three months.[3-5] The risk is high in those with family history, partial as well as myoclonic type of generalized seizures, underlying neurological deficits, EEG and imaging abnormalities.[2,6] In the absence of these risk factors the recurrence rate is low and the decision regarding initiating antiepileptic drug (AED) therapy is controversial.[7,8] While a few clinicians prefer to initiate it immediately, others prefer to wait for the second seizure.[9] Patients and relatives' preferences to AED after first unprovoked seizure has not been systematically studied. This study analyzes the patients' preferences towards AED therapy following first unprovoked GTCS and the reasons for the decision.

Materials and Methods

This study was conducted in the department of Neurology, Government. Stanley Medical College Hospital, a tertiary care center located in north Chennai in Tamil Nadu, a province in south India. This hospital caters primarily to the lower socioeconomic group. Unprovoked GTCS was defined as GTCS occurring without any clear precipitating event and witnessed by a person.[1] The inclusion criteria were: a) first attack of unprovoked GTCS; b) age between 18 to 60 years; c) normal CT brain; and d) time from the onset of the seizure to registration less than 30 days. Patients with positive family history of seizures or epilepsy, seizure cluster within 24hr and pregnant women were excluded. EEG was done in all the patients but the results were not considered while including the patients in the study. Prospectively all the patients with first attack of unprovoked GTCS who attended the outpatient department were enrolled and relevant demographic data such as age, gender, education, occupation and economic status were recorded. History regarding body injury during the seizure was also recorded. Patients and the family members were counseled between the 8th and 30th day of seizure. Patients seen within seven days of onset of seizure were put on clobazam 10 mg twice a day for seven days before recruitment. Counseling was done by the same doctor in one or two sessions. The second session was done only for those who were inconclusive after the first. Patients and their family members

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were provided a clear explnation about the following facts: a) first attack of unprovoked GTCS is not epilepsy; b) the chance of recurrence of seizure is ~ 50%; and c) if AED therapy is preferred it has to be taken for five seizure-free years without missing even one day; d) long-term AED therapy is associated with some adverse effects; e) all those who deferred treatment would be given the drug by the hospital in case of recurrence of seizure. All patients belonging to both preferred and deferred group were given the relevant general information regarding education, marriage, employment (related to driving, fishing, working at heights or near machineries, handling sharp instruments etc). After adequate counseling and clearing of doubts, the patients were asked about their preferences for AED therapy with reasons. If a patient was indecisive, he/she was encouraged to discuss with the family members and take the decision. Those who preferred AED therapy were started on phenytoin 200 mg at bedtime and instructed to collect the drug periodically once in two weeks from the hospital. A seizure diary was maintained. Patients in both the groups were regularly followed up once in two months in the outpatient department. During follow-up visits drug compliance, any recurrence of seizure and adverse drug events were documented. At the end of one year all the patients were asked to comment about their earlier decision.

Statistical analysis

Demographic characteristics of patients with first unprovoked GTCS were given in frequencies and their percentages. Age, sex, educational status and occupation of patients who preferred or deferred AED therapy were analyzed using Pearson's Chi-squared test and Yates corrected Chi-squared test. Odds ratio were given with 95% confidence interval (CI). Reasons given by the patients for preferring or deferring AED therapy were given in frequencies and their percentages. Decider's (patient, relative) proportional differences on preferring or deferring were analyzed using Pearson's Chi-squared test and odds ratio was given with 95% CI.

Results

During the study period 73 adult patients were enrolled [Table 1]. The mean time interval between the onset of seizure and enrollment into the study was 16.1 ± 14.2 days. Four patients (6%) had sustained major injury during the first seizure such as dislocation of joints, fractures, contusion over head requiring admission. In 22 (30%) patients awake EEG showed epileptiform activity. The various factors influencing AED therapy are given in Table 2 and the reasons for AED preference in Table 3.

Among the 73 patients, 39 (53%) preferred AED therapy whereas the remaining 34 (47%) patients deferred it and decided to wait for seizure recurrence. Among the patients with EEG abnormalities 14 (64%) preferred and eight (36%) deferred the drug. Patients who preferred to be on AED therapy included mostly males, lesser educated and manual laborers involved in risky jobs such as building construction work, welding etc. On the other hand patients who deferred therapy included mostly females, better educated and housewives. In the preferred group the decision was mostly taken by the patients themselves, whereas in the deferred group it was by the patients in consultation with the family members.

Of the 73 patients enrolled in the study, one year follow-up was done in 52 (71%), including 27 in the AED preferred and 25 in

Table 1: Demographic profile of the patients (n=73)

Age group	n (%)
< 20 years	34 (47)
20-30 years	20 (27)
30-40 years	12 (16)
> 40 years	7 (10)
Gender	
Male	54 (74)
Female	19 (26)
Education	
Primary	20 (27)
Middle school and above	53 (73)
Occupation	
Manual laborer	43 (59)
Housewife	15 (20.5)
Student	15 (20.5)

Table 2: Factors influencing preferences of AED Therapy (n=73)

Factors	Preferred group (n=39) (%)	Deferred group (n=34) (%)	Odds ratio (95% CI)[b]	*P*-value[a]
Sex				
Male	33 (85)	21 (62)	3.4 (1.0-12.1)	0.03
Female	6 (15)	13 (38)		
Education				
Primary	15 (39)	5 (15)	3.6 (1.1-13.5)	0.04
Middle school and above	24 (61)	29 (85)		
Occupation				
Housewife	4 (10)	11 (32)	4.2 (1.1-17.9)	0.01
Student	7 (18)	8 (24)	0.7 (0.2- 2.5)	0.56
Manual laborer	28 (72)	15 (44)	4.1 (1.4-12.3)	0.003
Decider to take AED therapy				
Patients	24 (62)	13 (38)	2.6 (1.0-7.5)	0.03
Patients and relatives	15 (38)	21 (62)		

[a]Test of significance was pearson Chi-squared test/Yates corrected Chi-squared test, [b]Odds ratio with 95% confidence interval, AED - Antiepileptic drug

Table 3: Antiepileptic drug therapy preferences and reasons (n=73)

Preferred group	(n=39)
Fear of injury	4 (10%)
Occupational risk	14 (36%)
Do not want a recurrence at any cost	21 (54%)
(i) living alone	(2)
(ii) nonavailability of medical help at times of emergency	(4)
(iii) fear of dismissal from job	(3)
(iv) fear of seizure itself	(12)
Deferred group	**(n=34)**
Fear of adverse effects	19 (56%)
Wait for second attack	15 (44%)

the differed group. In the preferred group four (19%) had recurrence of seizure due to poor drug compliance. In the deferred group three (12%) had recurrence and all of them were started on AED. All the 52 patients were happy and satisfied about their earlier decision of preferring or deferring AED therapy. The four patients who had recurrence due to poor drug compliance expressed regret for the noncompliance.

Discussion

The study has shown that following first attack of unprovoked GTCS, approximately one half of the patients, mostly male, preferred AED therapy because of (a) an 'attack' while at work could harm their life, (b) fear of major seizure-related injuries and (c) other reasons such as living alone etc. Some could not give specific reasons for preferring but it might have been due to fear of seizure itself and the stigma attached to it. An equal number of patients, mostly better educated housewives deferred the drug therapy and the reasons were a) fear of adverse effects of long-term AED therapy and b) willing to wait for the second attack, as the recurrence may not occur in 50% of times. In this study male gender was predominant. Similar observations had been made by other Indian studies also. In the series of Das *et al* and Gupta *et al*, it was 74 and 65% respectively.[4,5] Even though the exact reason is not known, probably it is due to early seeking of medical help by the male gender.

In the absence of risk factors such as underlying neurological abnormalities, the recurrence of seizure following first attack is low.[3-5] Besides, the long-term prognosis of patients who were started on immediate AED therapy was similar to those who received it after few recurrences.[8,10,11] Hence in a situation like this the risk-benefit ratio must be weighed.[12] The physician instead of taking a unilateral decision can provide adequate information about the disease to the patients and relatives and encourage them to take the decision, which may be more relevant to their lifestyle.[13] This concept was tested in this study and the results were found to be more relevant and practical. The patients' choices were better suitable to their occupation and living environment. Active involvement of the affected persons in the decision-making also led to better drug compliance. It was 85% in the AED preferred group, in comparison with 68% among those who attend the regular epilepsy clinic of this department.[14] Besides it could also avert unwanted legal complications, which might arise following unilateral decision by the clinicians.

To conclude, following first attack of unprovoked GTCS the decision regarding AED therapy may be taken by the affected patients and their close family members after adequate counseling by the physician and such a decision will be more relevant and suitable from the patients' perspective and hold them more responsible with a moral binding.

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Accepted on 13-09-2006

Source of Support: Nil, **Conflict of Interest:** None declared.