

A STUDY TO ASSESS DEPRESSION, ITS CORRELATES AND SUICIDAL BEHAVIOUR IN EPILEPSY

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ABSTRACT

Fifty subjects with seizure disorder were compared with thirty subjects with bronchial asthma and assessed for depression and suicidal behaviour. 34% of the epilepsy group had a diagnosis of major depressive episode compared to 13.3% of Bronchial Asthma group, which demonstrated a significant difference. Complex partial seizures and use of phenobarbitone had significant association with depression. 16% of the epilepsy group had a history of atleast one suicidal attempt in the previous year with 88% using anticonvulsants. 20% of the group also expressed current suicidal ideation, which correlated with Hamilton Depression Rating Scale total scores.

Key Words: Depression, Epilepsy, Asthma, Suicidal attempt

Psychiatric morbidity occurs more frequently in patients with epilepsy than in the general population. Estimates of major depression in epilepsy range from 8% to 48% with a mean of 29% and median 32% (Bromfield and Altshuler, 1992; Weigartz and Siedenber, 1999). Interictal depression is the most common presentation in persons with epilepsy, (Fenton and Standage, 1975). Persons with complex partial seizures have a higher risk of developing depression (Blumer, 1991).

The risk of attempted suicide as well as completed suicide is five times higher than in the general population (Mathews and Barabas, 1981). As depression is a significant comorbid illness in epilepsy, this study was planned to assess occurrence of interictal depression and its correlates and to compare with a group of patients with chronic illness bronchial asthma.

MATERIALS AND METHODS

The study was conducted in the epilepsy

and asthma clinics of Madras Medical College. 50 consecutive persons with minimum duration of 2 years of seizures were recruited after obtaining informed consent. Age less than 18 years and more than 60 years, psychiatric disorder antedating onset of seizures and persons with mental subnormality were excluded from the study. EEG's were done on all the 50 patient's of which 35 had evidence of epileptiform activity. 27 patients had undergone CT scans all of which were normal.

30 control patients with bronchial asthma were recruited from the asthma clinic of the same hospital with exclusion criteria being age less than 18 years and more than 60 years, history of psychiatric disorder antedating the illness and treatment with steroids.

A semistructured proforma was used for assessing seizures according to ILAE-1981 classification and for bronchial asthma General Health Questionnaire-12 item was used as a screening instrument for all the patients. A score of 3 or more was taken as a case. ICD-10 clinical and diagnostic criteria was used to diagnose

depressive episodes. Subsequently the Hamilton depression rating scale-17 item was used to assess depression. HDRS scores of more 15 was taken as significant and considered as inclusion criteria (Bech and Malt, 1993).

Seizure disorder patients were further divided into 2 groups based on the presence or absence of interictal depression.

Both the groups were compared on several variables, which included sociodemographic variables, illness variables and treatment variables.

Beck suicide intent and ideation scale was also used to assess suicidal behavior, which assesses intentionality of the most recent suicidal attempt as well as current suicidal ideation (Beck *et al.*, 1979).

The data was analysed with univariate techniques like chisquare for categorical variables and t test for continuous variables. P value less than 0.05 was taken as significant. Statistical package SX student version 4.0 was used for analysis. Pearson product moment correlation was carried out to examine the correlation.

RESULTS

Twenty five (50%) of the epilepsy group were male, 39 (78%) were married, 39 (78%) belonged to urban areas. Mean age was 33.5 years S.D. (9.0). Mean duration of seizures was 6.7 years S.D. (4.4), with mean duration of treatment of 6.3 years S.D. (3.8).

Sixteen (53%) of the asthma group was male, 26 (87%) were married, 25 (83%) belonged to urban areas. Mean age of the asthma group was 36.5 years S.D. (8.8). Mean duration of treatment was 5.9 years S.D. (4.2).

Thirty one persons (62%) of the epilepsy group had generalised tonic clonic seizures, 13 (26%) had complex partial seizures, while 6 (12%) had partial seizures. 50% had atleast 1 seizure per month. 31 (62%) were on monotherapy, 19 (38%) were on polytherapy. 38 (76%) were regular on drugs. There was no family history of epilepsy or psychiatric illness. There was no difference on socio demographic and illness variables between

the cases and controls.

34% of persons with epilepsy were diagnosed to have major depression of which 24% were diagnosed as F32.2 - Severe depressive episode without psychotic symptoms.

TABLE
TABLE SHOWING DIFFERENCES BETWEEN DEPRESSED EPILEPTIC PATIENTS AND NON DEPRESSED EPILEPTIC PATIENTS

Variable	Epilepsy with depression (N=17)		Epilepsy without depression (N=33)	
	Mean	S.D.	Mean	S.D.
Income Analysis	1711.8	508.5	1724.2	807
	t=0.06, df=48, p=0.95			
Age Analysis	34.1	8.3	33.1	9.4
	t=0.4, df=48, p=0.69			
Duration of illness Analysis	8.1	5.2	5.9	3.9
	t=1.65, df=48, p=0.10			
Duration of treatment Analysis	7.8	5.1	5.4	2.6
	t=2.21, df=48, p=0.07			
<u>Sex</u>				
Male	3		22	
Female	11		14	
Analysis	χ ² =10.78, df=1, p=0.001***			
<u>Type of treatment</u>				
Monotherapy	10		21	
Polytherapy	7		12	
Analysis	χ ² =0.11, df=1, p=0.74			
<u>Seizure Type</u>				
Complex partial	12		1	
Other types	5		32	
Analysis	χ ² =11.09, df=1, p=0.04			
<u>Type of drug</u>				
Phenobarbitone	6		3	
Other types	11		30	
Analysis	χ ² =3.6, df= 1, p=0.04*			

10% were coded as F32.11- Moderate depressive episode with somatic symptoms. 17 persons (34%) of the epilepsy group had scores more than 15 on the HDRS - 17 item scale, while 4 persons (13.3%) of the asthma group had scores more than 15 (p < 0.05). Comparing the two groups, depression in persons with epilepsy is significantly associated (p value less than 0.05)

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as compared to persons with bronchial asthma. Persons with major depression in the epilepsy group were compared with the non depressed group on sociodemographic, illness and treatment variables (Table 1).

Variables like duration of illness, polytherapy, seizure frequency, duration of treatment did not show a significant association with depression (Table 1).

Complex partial seizures, female sex and use of phenobarbitone showed significant association with depression. (p value less than 0.05) (Table 1).

Suicidal behavior was also assessed in both groups. 16% of the epilepsy group had history of at least one attempt out of which 88% of the group had overdosed themselves with antiepileptic drugs. 5 persons (63%) had over dosed themselves with phenobarbitone, while 3 (37%) had over dosed with phenytoin. 20% of the group expressed current suicidal ideation. Pearson product moment correlation showed a value of 0.33 between suicidal ideation total and total scores on Hamilton depression rating scale.

None of the bronchial asthma patients had a history of suicidal attempts, while only 4% expressed current suicidal ideation.

DISCUSSION

Patients with epilepsy had significantly more depression as compared to bronchial asthma which agrees with findings of previous studies which used controls with a similar handicap (Kogeorgos and Fonagy, 1982). This particular finding may imply that most depression in epilepsy is an organic mood disorder rather than a reaction to a chronic disability, which probably signifies the depression in epilepsy is more of a biological process.

34% of the group suffered from major depressive episode which are in accordance with other studies (Manchanda and Scafer, 1996).

Duration of epilepsy, duration of treatment and age of onset was not related to occurrence of depression (Table 1). This finding is similar to

Hermann and Siedenberg (2000), who reviewed 36 articles on depression in epilepsy and found that the above variables were not reliably associated with depression.

Patients with complex partial seizures had significantly more depression as compared to patients with other seizure types (Blumer, 1991).

Patients on phenobarbitone had significantly more depression as compared to other drugs (Robertson and Trimble, 1987). Majority of the persons who had attempted suicide had overdosed themselves with antiepileptic drugs, which could be probably explained by easy accessibility and availability (Hawton and Fagg, 1980).

To conclude depression is a significant comorbid illness, which occurs in epilepsy though, it is under studied and underdiagnosed. It is of moderate to severe degree with endogenous features (Trimble and Robertson, 1983) and are not directly interlinked with epilepsy variables. It is more of an organic mood disorder than a reactive process to a chronic episodic illness. Risk of suicide is higher in epileptics and suicidal attempts are mainly by antiepileptic overdose, which indicates the need for use of safer drugs, limiting drugs and involving family in the treatment process. Limitations of the study was that the sample was recruited from a large tertiary hospital and findings cannot be generalized to the community. The study design was a cross-sectional case control design, therefore causal modeling could not be attempted.

Psychosocial variables and life events were not assessed in this study.

Use of a structured diagnostic instrument like SCID-patient version would have been useful to detect lifetime episodes of depression.

Future research could be on community samples to detect prevalence rates as well as to study both biological and psychosocial variables.

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