PSYCHIATRIC DISORDERS IN CHILDREN WITH TEMPORAL LOBE EPILEPSY: A CONTROLLED INVESTIGATION

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SUMMARY

Twenty five children each with temporal lobe epilepsy and grand mal epilepsy, both diagnosed electroencephalographically, were studied for psychiatric disorders. Temporal lobe epileptics had such disturbances much more often. The commonest diagnostic label in both the groups was behaviour disorder, followed by neuroses. Schizophrenia was seen only in temporal lobe epileptics.

Epileptics have been found to be strikingly susceptible to psychiatric disorders and almost all forms of such abnormalities have been reported in them (Bagadia et al., 1973; Abdul Gafoor and Santhakumar, 1974). There is a controversy as to whether mental changes are related to the type of epilepsy. Thus while some workers (Slater et al., 1963; Flor-Henry, 1976 and Shukla et al., 1979) found them to be more common in temporal lobe epilepsy, others found no such difference (Guerrant et al., 1962 and Stevens, 1973).

Excepting few (Nuffield, 1961; Brey, 1962 and Graham and Rutter, 1968), the studies on psychiatric morbidity in temporal lobe epilepsy concern with adults. The present communication, therefore, is a report of the incidence and type of psychiatric abnormalities in children with temporal lobe epilepsy as compared to those seen in a group of children with generalized epilepsy of grand mal type.

MATERIAL AND METHOD

The study was carried out in the Epilepsy Clinic of Institute of Medical Sciences, Banaras Hindu University. Twenty five children with temporal lobe epilepsy and an equal number of randomly selected controls, having grand mal epilepsy, both diagnosed electroencephalographically (Driver, 1970 and Solomon, 1975), excluding those with neurological deficits and/or mental subnormality, were studied.

In every case, history of epilepsy and psychiatric illness were recorded on a schedule based on the Item-Sheet published by Taylor and Falconer (1968). A thorough psychiatric examination was conducted based on the method of Slater and Roth (1969). The psychiatric abnormality, if any, was classified on the basis of the Diagnostic and Statistical Manual-II of the American Psychiatric Association (1968).

Epilepsy and the associated psychiatric abnormalities were appropriately treated. The patients were followed up to ascertain the relation of severity of psychiatric symptoms with the frequency of seizures. The data was thereafter analysed.

OBSERVATIONS

The two groups were comparable as regards age, sex, socioeconomic status, family history, duration of illness and frequency of seizures (p>0.05).

However, as is evident from Table I, temporal lobe epileptics had significantly greater psychiatric abnormalities as compared to controls. And all the three diagnostic groups, viz., behaviour disorder, neuroses and schizophrenia occurred more

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**Table I—Showing psychiatric disorders in the study and control groups.**

| Psychiatric diagnosis | Temporal lobe epileptics | Grand mal epileptics |
|-----------------------|--------------------------|---------------------|
| No. | % | No. | % |
|---|---|---|---|
| Normal | 4 | 16 | 16 | 64* |
| Behaviour disorder | 12 | 48 | 5 | 20** |
| Neuroses | 7 | 28 | 4 | 16*** |
| Schizophrenia | 2 | 8 | .. | .. |
| Total | 25 | 100 | 25 | 100 |

*Χ² = 12.0, p < 0.001  **Χ² = 4.3, p < 0.05  ***Χ² = 3.1; p > 0.05.

frequently in the study group, though the difference was significant with respect to only the first.

**Behaviour disorder:** Twelve patients in the group of temporal lobe epilepsy as compared to only five in the control group manifested behaviour disorder. Of these, 7 and 3 cases respectively, in two groups, presented with symptoms of hyperkinetic reaction while the remaining 5 and 2 had unsocialized aggressive behaviour. There was no definite relation between the frequency of seizures and the severity of the symptoms of behaviour disorder.

**Neuroses:** Although 7 cases in the study group as compared to 4 in the control group had neurotic symptoms, the differences were not statistically significant. In the former group, 3 had anxiety neurosis and two each had neurasthenic and hypochondriacal neurosis. The corresponding figures for the control group were 2, 1 and 1. In all these cases, the severity of neurotic symptoms was directly related to the frequency of fits.

**Schizophrenia:** Two patients with temporal lobe epilepsy and none with grand mal epilepsy had features of schizophrenia. Both these cases had hebephrenic presentation with marked thought disorder and emotional incongruity. The severity of psychiatric symptoms was inversely proportional to the frequency of seizures and both the cases responded favourably to E.C.T. and phenothiazines in addition to antiepileptics.

**Discussion**

Although several workers have studied the psychiatric manifestations of temporal lobe epilepsy in adults, only a few have concentrated on studying children. This is mainly because of the fact that temporal lobe epilepsy itself occurs relatively less frequently in children (Gibbs et al., 1948; Pond, 1952; Stevens, 1966 and Currie et al., 1971). Bray (1962), in his uncontrolled study of 20 children with temporal lobe epilepsy, found that only 4 were normal. Six were 'psychotic', 4 'hyperactive', 3 'neurotic' and 3 'mentally retarded'. Aird et al. (1967) reported behaviour disorder, characterized by hyperactivity, belligerency, agitation and irritability, in 22% of children with temporal lobe epilepsy as compared to only 14% of the controls.

Behaviour disorders in form of hyperkinetic reaction was seen in nearly half of our temporal lobe epileptics as compared to only a quarter of controls. Pond (1952) observed that behaviour disorder was frequently the presenting complaint, the seizure remaining in the background. He observed that temporal lobe epileptics were violently aggressive, explosive and unpredictable as compared to children with petit mal epilepsy who were not aggressive but rather passive and nice-mannered. Similar findings have been reported by some other workers as well (Bradley, 1951; Ounsted, 1955; Nuffield, 1961 and Graham and Rutter, 1968).

Hyperkinetic behaviour disorder in children can at times be precipitated by phenobarbitone (Falconer and Taylor, 1970). However, our patients were observed to have behaviour disorder of this type even at the initial assessment. Further, there
was no relation between the medication, control of seizures and the severity of behaviour disorder.

Occurrence of neurotic symptoms in epileptics is quite understandable in the light of the horrifying nature of epileptic seizures and the unpredictability attached to them (Bagadia et al., 1973 and Shukla et al., 1979). Our finding of neurotic disturbances being more common is in conformity with that of Taylor (1972) for adults.

Higher incidence of schizophrenia in adult temporal lobe epileptics has been reported (Slater et al., 1963; Shukla et al., 1979 and Shukla and Katiyar, 1980). Our observation of an inverse relationship between the frequency of fits and the severity of psychotic symptoms is supported by similar observations in adults (Ervin et al., 1955 and Reynolds, 1968).

It is somewhat difficult to explain the higher incidence of psychiatric problems in temporal lobe epileptic children. But in view of the intimate connections of temporal lobes with the rhinencephalic structures that are so intimately involved in motivational and affective responses. A neuro-physiological mechanism appears to be most likely. Further, states of partial consciousness occurring in temporal lobe epilepsy may be more psychologically threatening to a child than a total loss of consciousness, usual in grand mal attacks.

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