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### Epilepsy and Psychosis

DEAR SIR,

In a recent issue of the *Journal* (February 1985, 146, 155–163) Drs. Perez, Trimble, Marion and Reider make a significant contribution to the longstanding discussions and debate on the relationship between epilepsy and psychosis in general and between temporal lobe epilepsy (TLE) and schizophrenia in particular. The essence of that debate is as follows. Numerous anecdotal reports in the literature document a frequent association between TLE and a variety of generally unpleasant personality traits, aggression and psychosis. Many such studies examine patients with TLE for such traits excluding other epilepsies from purview (Flor-Henry, 1969; Bear & Fedio, 1977; Lindsay *et al.*, 1979). Another group of investigations surveys age and otherwise matched patients with both TLE and generalised epilepsy (GE) utilising psychological tests or interviews by blind observers; these studies generally fail to show significant differences in personality or psychopathology between the two groups (Small *et al.*, 1966; Mignone *et al.*, 1970; Standage & Fenton, 1975; Rodin *et al.*, 1976; Hermann *et al.*, 1981; Parnas & Korsgaard, 1982).

Ever since the now classic study of Slater, Beard & Glithero (1963) reported that 52 of 69 patients with epilepsy and schizophreniform psychosis had a temporal lobe focus, attention has been drawn to the possible association between these two common disorders. However, as has been pointed out elsewhere, these authors' finding of 70% TLE in a population of adult epileptics with psychosis is close to the anticipated incidence of TLE in adults with epilepsy—variously reported as between 55% and 80% (Stevens, 1966; Marquis-Assis, 1976). It is of interest then that Perez *et al.*, in a fresh prospective study of consecutive patients with epilepsy and psychosis have come up with almost exactly the same percentages of TLE as Slater *et al.* (71% TLE; 29% GE), a figure falling well within the expected percentage of adults with epilepsy who will have TLE.

However, by delineating certain differences in interictal syndromes for TLE and GE, Perez *et al.* have made a distinct contribution. Despite the

persistent emphasis on TLE as the culprit in the epilepsy-psychosis constellation, patients with TLE and GE in their series of patients with epilepsy and psychosis are represented in approximately the same percentage as their proportion in the adult epilepsies. Moreover, the interictal psychoses of patients with GE were apparently just as chronic and apparently even more severe than those of patients with TLE. However, important differences emerged between TLE and GE in the Present State Examination (PSE). By using this structured diagnostic interview and the specific criteria of CATEGO to define a group of designated *nuclear schizophrenics* (NS) based on the possession of a requisite constellation of Schneider's first rank symptoms, the authors reported that the NS syndrome was exclusively found in patients with TLE ( $n=11$ ). In contrast, the remainder of the TLE ( $n=6$ ) and GE ( $n=7$ ) patients who failed to meet CATEGO criteria for NS but who were also chronically psychotic had a variety of other psychoses. Although not as well defined by the authors, these psychoses apparently included more non-productive symptoms including cognitive and affective defects, thought incongruity and blocking characteristic of what Kraepelin described as *dementia praecox* and more recently has led Crow (1980) and others to characterise as schizophrenia with "negative symptoms". It also appears that the authors' patients with non-NS and GE score higher on some 12 of the PSE items than non-NS schizophrenic patients with TLE and higher on 18 items than patients with either TLE and NS or NS without epilepsy.

The authors also give new insight to the much debated issue of a critical interval between onset of epilepsy and development of psychosis. Slater *et al.* initially reported that a duration of epilepsy around 16 years was a critical factor in the subsequent development of schizophreniform psychosis, although in a subsequent analysis of the same population (Slater & Moran, 1969) they noted a difference from expected age of onset only in the females. Perez *et al.* noted that their TLE group with NS has the shortest interval between onset of epilepsy and development of psychosis with a mean of 16 years. In contrast, their non-NS groups with either GE or TLE have a seizure history of 26.7 and 25.1 years, respectively. Inspection of their data indicates that this is at least partly due to the earlier onset of seizures in patients with GE (mean age 6) and of TLE without NS (mean age 9) while patients with the NS syndrome and TLE have a mean age of onset of 11 years.

In contrast to earlier studies comparing patients with GE and TLE in whom the psychoses associated with GE were said to be briefer and have a better prognosis than those of TLE (Dongier, 1960), the patients with GE and psychosis reported by Perez *et al*, have psychoses that were even more chronic and severe than those of patients with the nuclear schizophrenic syndrome. Indeed, the authors note that most of their patients with nuclear schizophrenia do not become institutionalised and lived "reasonably satisfactory lives in the community". As the authors are aware, the Schneider first rank symptoms are by no means specific for schizophrenia and do not correlate highly with other diagnostic profiles for schizophrenia or with prognosis (Kendell *et al*, 1979). However, whether these relatively less handicapped persons would be generally considered more schizophrenic than those with the severe psychosis and cognitive defects is less the point than the fact that a subgroup of psychosis has been discerned that is characterised by a constellation of Schneiderian symptoms and with an anatomic reference in the temporal lobe predominantly lateralised to the left. Patients with more severe chronic interictal psychosis have evidence of more widespread neurophysiologic and neuropathologic (e.g., CT scan) changes underlying a syndrome characterised by more "negative" symptoms, earlier onset of seizures and greater cognitive impairment.

It is not difficult to accept that Schneiderian symptoms, more than half of which pertain directly to pathologic auditory perception or verbal material, are associated with pathology in the left temporal lobe (Stevens, 1973). Notably lacking in first rank symptoms, however, are the formal thought disorder, disturbances of affect and autism characteristic of Kraepelin, ICD9 or DSM III criteria for schizophrenia. Although not as clearly spelled out in their report, it appears that chronic interictal psychosis, albeit not of the Schneiderian (NS) variety, is according to their study equally common percentage-wise in adults with GE as in TLE. This study is thus a definite contribution toward delineating the underlying anatomy of Schneider's first rank symptoms rather than schizophrenia. It is of interest that clonazepam, a benzodiazepine with potent anti-convulsant activity is reportedly useful in certain patients with Schneiderian symptoms, but who were classified as schizoaffective or manic (Chouinard *et al*, 1983; Greenspan & Levin, 1985).

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## Paroxysmal Kinesigenic Choreoathetosis (PKC) and Hypomania

DEAR SIR,

PKC is a rare, involuntary movement disorder. The movements are tonic, dystonic, or choreoathetotic,