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FUNCTIONAL TESTS OF THE CORPUS CALLOSUM IN SCHIZOPHRENIA

DEAR SIR,

Jones and Miller (*Journal*, December 1981, **139**, 553-57) suggest that schizophrenia is a split-brain condition akin to agenesis of the corpus callosum. They have demonstrated that unlike normal subjects, patients with acute schizophrenia show simultaneous cortical evoked responses to vibratory stimuli applied to each index finger. A more obvious conclusion from their work is that these patients simply have ipsilateral pathways to the CNS of near equal importance to the contralateral pathways. In normals most stimuli going to the CNS are projected preferentially to the contralateral hemisphere, and activity in the corresponding part of the ipsilateral hemisphere is suppressed (Gazzaniga, 1974). Exceptions to this of course arise (e.g. visual stimuli are projected to both right and left cerebral hemispheres without suppression).

A number of studies have tried to demonstrate a causative role in schizophrenia of damage to the corpus callosum. Most of these use as their starting point the study on only 10 chronic schizophrenic patients by Rosenthal and Bigelow, 1972. This study had a number of flaws including a low number of patients and the fact that a number of the controls suffered with alcoholism and 6 had a diagnosis of personality disorder (no criteria given). Even if the corpus callosum is thickened in chronic schizophrenia, this does not mean that this is the primary disorder but might well be secondary to either drug therapy or attempts by the body to compensate for damage of one hemisphere. A major flaw with the study by Beaumont and Dimond (1973) was that, in testing their subject for transfer of information across the corpus callosum, they relied on verbal replies and therefore their results could be interpreted as showing either problems in the corpus callosum or in the dominant hemisphere of schizophrenic patients.

The evidence from Green's (1978) work would on first sight appear to be contradictory to the results obtained by Jones and Miller, for surely if information from one hand is relayed equally to both cerebral hemispheres, then interhemispheric transfer would not be necessary for the other hand to perform a task.

A number of authors (Gruzelier and Venables, 1974; Gur, 1977; Taylor, Greenspan and Abrams, 1979; Schweitzer, Baker and Welsh, 1978; Flor-

Henry, 1969) have hinted that in schizophrenia, there might well be a lesion of the dominant hemisphere but so far, neither the investigation of the corpus callosum nor the investigation of the left cerebral hemisphere have thrown much light on the aetiology or treatment of the schizophrenias.

However, the work of Jones and Miller opens a new avenue to the investigation of schizophrenia. The underlying anatomical problems in schizophrenia may be in the presence of unduly large ipsilateral pathways to and from the cerebral hemispheres. These would result secondarily in failure of one hemisphere to suppress function in the other as normally occurs (Gazzaniga, 1974).

Indeed Green (1979) reported that by use of earplugs to occlude stimuli from one ear in schizophrenic patients, they obtained significantly increased levels speech comprehension compared with everyday binaural hearing and perhaps a decrease in auditory hallucinations. By doing this they were clearly giving one hemisphere an advantage in dealing with auditory stimuli over the other, and thus facilitating that hemisphere in suppressing the opposite hemisphere.

It might well be that the genetic predisposition in schizophrenia may be the presence of an excess of ipsilateral sensory and motor tracts and indeed previous research has shown the presence of major ipsilateral nerve tracts in man (Levy, 1976).

This study by Jones and Miller certainly fits in with the theories of attention and perception described by McGhie and Chapman (1961) and with the findings of a disorder of the arousal mechanism (Claridge, 1972). It is also easy to see how the dopamine hypothesis would fit in with this scheme.

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NOMIFENSINE FOR SIDE-EFFECTS OF DEPOT NEUROLEPTICS

DEAR SIR,

Dr Bennie (*Journal*, February 1982, **140**, 210) suggests that there may be a case for offering depressed schizophrenics on depot neuroleptics an antiparkinsonian rather than an antidepressant drug. However there is an antidepressant, nomifensine, which has definite, albeit mild, antiparkinsonian activity (Teychenne *et al*, 1976; Hanks and Park, 1981). It has been suggested that nomifensine may have a particular place in the management of depression in patients with Parkinson's disease (Bedard *et al*, 1977; Park *et al*, 1981) and there are certainly anecdotal reports of amelioration of neuroleptic-induced extrapyramidal symptoms and signs with nomifensine. I have recently used it with dramatic effect in a patient exhibiting extrapyramidal signs due to haloperidol overdosage.

There is little information on the effects of anticholinergic antiparkinsonian agents on mood and most of what there is refers to the elevation of mood produced by orphenadrine (Onuaguluchi, 1963; Capstick and Pudney, 1976; Johnson, 1981). Whilst there are no data specifically comparing the antidepressant effects of orphenadrine and nomifensine, there certainly seems to be a case for trying nomifensine before anticholinergic agents in the treatment of depression and perhaps also of extrapyramidal side-effects, in schizophrenic patients on depot neuroleptics.

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WHICH PATIENTS DO WELL AFTER BRIEF CRISIS ADMISSIONS?

DEAR SIR,

Recent attempts to identify characteristics associated with psychiatric treatment success in hospital have studied ward characteristics (i.e. Ellsworth *et al*, 1979), therapy process variables (i.e. Peake, 1979), and presenting characteristics of patients. Studies of the latter type have failed to yield a consistent pattern of results perhaps due to differences in setting and definitions of 'success' (i.e. Keithly, Samples and Strupp, 1980; Archer, Bedell and Amuso, 1980). In addition, previous studies of patient characteristics associated with treatment success have been limited by investigating only a few potential predictor variables. No study to date has investigated a large number of patient variables associated with success on a short-term psychiatric crisis unit.

One year's population of patients from the Short-Term Assessment and Treatment Unit, Health Sciences Centre, Winnipeg, Canada were divided into 'successful' (n = 90) and 'unsuccessful' (n = 48) based on in-hospital goal attainment scores of greater than and less than '50' respectively (Kiresuk and Sherman, 1968). The average stay for these patients was almost seven days. The groups were compared on 104 demographic, historic and diagnostic variables. Of these, only four significantly (P < .05) distinguished the groups by 't' or 'chi square' test: successful