THE DIFFERENCES BETWEEN LSD PSYCHOSIS AND SCHIZOPHRENIA*

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A functional psychosis (or a group of functional psychoses) has been recognized for many years (9) and is now called schizophrenia (1). Following the ingestion of lysergic acid diethylamide (LSD) a psychosis which is distinct from the manifestations of acute intoxication has been reported (6). Some observers regard the LSD psychosis as an entity which is separate from schizophrenia (8); others comment on the speculation that the drug might merely unmask latent schizophrenia (7), or think that its ingestion is coincidental to the development of that disease (10).

If the psychosis which attends LSD is ordinary schizophrenia which is precipitated by the drug, then the genetic backgrounds of a group of patients with psychosis preceded by LSD ingestion might be expected to correspond to the backgrounds of schizophrenic patients whose illnesses developed without relation to drug ingestion.

If LSD psychosis is different from ordinary schizophrenia then it should be possible to distinguish the two states on the basis of the syndrome alone, that is, without reference to the antecedents.

If, upon investigation, it transpires that LSD psychoses and schizophrenic illnesses differ in both antecedents and syndrome then, since these define a disease entity, it would be reasonable to conclude that separate diseases are under review and it would be helpful to know how these diseases might be distinguished from each other.

Method

All patients in the authors' practice who developed an illness approximating to schizophrenia during the year following the ingestion of LSD were selected and their drug histories examined more closely. When LSD was the dominant drug used, the patient was retained in the series: LSD was regarded as dominant if no other drug was used; the only other drug used was cannabis, and LSD had been used frequently; or 'speed' or 'MDA' had been used only infrequently and LSD had been used frequently.

None of the patients had had significant experience with opium derivatives, and therefore this drug was not mentioned in the specification.

Ten patients were found who fulfilled these requirements and a further five were located at the local psychiatric hospital. These fifteen patients constituted the 'experimental subjects'. They were compared with a 'control' group of 114 consecutive schizophrenic patients (so diagnosed by other consultants in each instance) who had been managed and assessed in relation to another study. These controls all had, *inter alia*, their family histories recorded, and an account (incorporating 21 items) of the syndrome each manifested at the height of the illness. Each symptom had been scored

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0-5 to indicate severity — operational definitions guiding the scorer.

Using the same items, operational definitions, scorer and interview method, corresponding numerical data were obtained for the fifteen experimental subjects.

The family history of schizophrenia was recorded as positive or negative for each subject for the purposes of comparison, and significance assessed by X^2. The significance of differences in symptoms was assessed by t-test.

Results

Of the 114 controls, thirty-eight had a family history of schizophrenia. None of the experimental subjects had a positive heredity ($p < 0.05$).

A general description of the psychoses of the experimental subjects may be constructed from the numerical data.

All patients had some degree of impairment of thought, but in eight instances this was mild or minimal and amounted to little more than subjective difficulty in concentration.

Hallucinations were common, seven patients being auditorily hallucinated, five visually hallucinated, and one transiently olfactorily hallucinated; none had tactile hallucinations.

Illusions were even more common because of the prominence of visual illusions which were present in thirteen patients. Auditory illusions were present in four and minimal illusions of bodily change in one. No olfactory illusion was reported.

Eleven patients were anxious to a notable extent during the course of the illness, and twelve were depressed (three suicidal) at some stage. Elation was less common, being present in six, and was never extreme; it seemed also to have a distinct quality, being associated with exaltation or a sense of omniscience rather than happiness or infectious joy. Affective flattening was present in five patients.

Hypersomnia and alterations in appetite and thirst were not present in any patient. (These symptoms are included because they occasionally occur in schizophrenia and were present in the original scoring scheme).

Catatonic symptoms were noted in only two patients, but were severe when present; nine patients showed primary delusions, prominent when present, and equally prominent secondary delusions were displayed by eight; seven suffered from insomnia averaging moderate severity when present; three described passivity phenomena (of moderate severity), such as the sensation of being controlled by some outside agency.

Features differentiating the psychoses of the experimental subjects from those of the controls are set out below, with the statistical significances, if any, noted in parenthesis.

There were marked differences in the perceptual sphere, patients with LSD psychosis having fewer auditory hallucinations ($p < 0.01$), more visual hallucinations ($p < 0.10$) and more visual illusions ($p < 0.05$).

Affectively, little difference was discerned between the two states except that patients with LSD psychosis showed less flattening of mood ($p < 0.10$).

Catatonic symptoms were equally distributed between the two conditions. Patients with LSD psychosis showed fewer passivity phenomena (not significant).

Primary delusions were equally distributed but secondary delusions were less common in patients with LSD psychosis ($p < 0.01$), presumably because of the frequency of insight into the abnormal nature of their perceptual symptoms.

The two states may be contrasted by considering only the most typical syndromes of the experimental subjects, and these can be selected by using a symptom clustering technique (2,3). When the twelve central syndromes are compared with the corresponding data from the control group the paucity of auditory misinterpretation ($p < 0.05$) and of passivity phenomena ($p < 0.10$) in the experimental group is underlined.

Discussion

The descriptions given of LSD psychoses in previous reports (4,5,6-8,11,12) correspond to that set out in this paper, and it is clear that the same condition is under review.

The heredity of the experimental subjects differs from that of the controls, a finding which adds weight to the suggestion that LSD psychosis is different from ordinary schizophrenia. However, in the absence of knowledge of the pathological processes which operate, it cannot be assumed that different antecedents will produce grossly different end states; for example, distinct states such as renal failure, disorganization of a joint or death may each be variously caused.

In the present investigation suggestive evidence emerges that the syndrome of LSD psychosis is clinically distinguishable from that of ordinary schizophrenia. Of course, if a score or so of items are compared it is to be expected that, because of the operation of the laws of chance, some will differ even when the populations do not. Although it would not be out of the way for one or two items to differ at the 5 percent level, the combination of two items differing at the 0.1 percent level, one at the 1 percent and one at the 5 percent strongly suggest that separate entities are being examined. It would be plausible to speculate that these differences are caused by additional drug-induced symptoms superimposed upon ordinary schizophrenic syndromes but for the fact that patients with LSD psychosis have fewer of some symptoms and more of others.

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Résumé

Les auteurs ont comparé des patients souffrant, à la suite de l'ingestion de LSD, de psychoses semblables à la schizophrénie, à des patients chez qui la schizophrénie est apparue en l'absence de l'emploi de drogues. Ils ont examiné les traits cliniques des syndromes et l'incidence familiale de la schizophrénie. Ils exposent en détail les différences observées; elles semblent confirmer l'opinion que les psychoses dues au LSD et les maladies schizophréniques constituent des états différents, qu'on peut distinguer cliniquement en se basant sur l'hérédité, sur les symptômes de perception et sur les hallucinations secondaires.

Of all substances which nature hath produced man's body is the most extremely compounded . . . . This variable composition of man's body hath made it as an instrument easy to distemper.

The Advancement of Learning Bk II
Sir Francis Bacon
1561-1626