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A Family Study of Two Subgroups of Schizoaffective Patients

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A family study was carried out in two groups of patients fulfilling RDC for schizoaffective disorder: in one, a full affective and a full schizophrenic syndrome were simultaneously present; in the other, affective and schizophrenic features appeared within a polymorphic and rapidly changing clinical picture, with depersonalisation/derealisation and/or confusion. In the first-degree relatives of patients of the former group, the risk of major psychiatric disorders was not significantly different from that of relatives of schizophrenics, whereas in the first-degree relatives of patients of the latter group a low risk for both schizophrenia and major affective disorders, and a relatively high risk for schizoaffective disorders, were observed.

The nosological status of schizoaffective disorders remains very uncertain. There are, in fact, at least five different hypotheses about the nature of these conditions (Maj & Perris, 1985): (a) they are variants of schizophrenia; (b) they are variants of major affective disorders; (c) they represent a 'third psychosis', distinct from both schizophrenia and major affective disorders; (d) they find their place in the intermediate part of a 'continuum', whose poles are represented by the typical forms of schizophrenia and manic–depressive illness; (e) they result from the simultaneous occurrence of a true schizophrenia and a true major affective disorder in the same patient.

In order to test the validity of these hypotheses, several family studies of schizoaffective probands compared with patients with schizophrenia and/or with major affective disorders have been carried out, although in only a small proportion of these investigations was the relatives' diagnoses made without knowledge of the probands' diagnoses and the age-corrected morbidity risks for the different disorders calculated. The studies by Mendlewicz *et al* (1980) and Baron *et al* (1982) suggested that schizoaffective disorders, defined according to Research Diagnostic Criteria (RDC; Spitzer *et al*, 1975), encompass a heterogeneous group of conditions, part of which may be related to major affective disorders and part to schizophrenia. The Kraepelinian 'binary' paradigm was especially supported by Baron *et al*'s finding of an excess of schizophrenia in the relatives of 'mainly schizophrenic' schizoaffectives, and of an excess of affective disorders in the relatives of 'mainly affective' schizoaffectives. On the other hand, the reports by Gershon *et al* (1982) and by Abrams & Taylor (1980) supported the view that RDC schizoaffective disorders are usually variants of major affective disorders and, more precisely, correspond to the most 'virulent' forms of these conditions. It should be emphasised, however, that in Gershon *et al*'s study a complete recovery between the episodes was required as a selection criterion, while in Abrams & Taylor's investigation only schizomanics were considered: it is possible, therefore, that in patient samples recruited by these authors the 'mainly affective' subtype of schizoaffective disorders was over-represented.

Overall, the results of family studies speak in favour of an interpretation of schizoaffective disorders as variants of either schizophrenia or major affective disorders, with a greater frequency of cases related to affective disorders. This leaves two questions unanswered. First, may we conclude that *all* schizoaffective disorders are variants of either of the major psychoses? Indeed, some research findings (Maj, 1988) seem to indicate that there is a subgroup of schizoaffective patients who escape such dichotomy, in whom affective and schizophrenic features frequently appear within a more complex polymorphic and rapidly changing clinical picture, with depersonalisation/derealisation and/or confusion (Perris, 1974; Pull *et al*, 1983). How should these cases be interpreted? Do they represent a 'third' psychosis?

The second question arises from the observation that RDC for schizoaffective disorders, which have been used in the great majority of family studies, require the occurrence of a *full* affective syndrome together with at least *one* of a series of schizophrenic-like symptoms. The emphasis, therefore, is on the affective component, which may have conditioned the results of the investigations. Thus, the question is, what is the risk for major psychiatric disorders

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TABLE I
Socio-demographic and historical features of the schizoaffective patients

Variable	*Group (a) (n = 20)*	*Group (b) (n = 18)*
Educational level: years of schooling, mean ± s.d.	10.2 ± 4.5	10.8 ± 5.6
% married	30.0	27.7
Age at onset: years, mean ± s.d.	27.5 ± 5.0	24.8 ± 5.4
Duration of illness: years, mean ± s.d.	8.5 ± 4.0	8.3 ± 4.5
No. of admissions: mean ± s.d.	1.8 ± 1.6	1.9 ± 1.0
History of perinatal complications: % positive	5.0	16.7

in the relatives of patients showing simultaneously a full affective and a full schizophrenic syndrome? Is there any evidence of a mixed heredity? The present study was designed to provide an answer to the above questions.

Method

Subjects

The study was carried out in the following samples of patients. (a) Twenty subjects (7 men, 13 women, aged 26–49 years, mean ± s.d. 36.1 ± 6.2) fulfilling RDC and the cross-sectional criteria of Maj & Perris (1985) for schizoaffective disorder:

(i) Manic subtypes: 1–3 are required (all symptoms are defined according to the comprehensive Psychopathological Rating Scale (CPRS; Åsberg *et al*, 1978):
  (1) Presence of at least three of the following symptoms: feeling controlled, or disrupted thoughts, or ideas of persecution; commenting voices, or other auditory hallucinations, or hallucinatory behaviour; lack of appropriate emotion; withdrawal; incoherent or empty speech; mannerisms and postures.
  (2) Presence of persistent and prominent elation.
  (3) Presence of at least five of the following symptoms: reduced sleep; increased sexual interest; ideas of grandeur; distractibility; pressure of speech; flight of ideas; overactivity; increased energy; disinhibition.

(ii) Depressive subtype: 1–3 are required:
  (1) As for manic subtype.
  (2) Presence of persistent and prominent sadness.
  (3) Presence of at least six of the following symptoms: inability to feel; pessimistic thoughts; suicidal thoughts; lassitude, or fatiguability; concentration difficulties, or failing memory; reduced appetite; reduced or increased sleep; reduced sexual interest; slowness of movement, or agitation; negative self-evaluation; social withdrawal.

(b) Eighteen subjects (8 men, 10 women, aged 24–46 years, mean ± s.d. 33.9 ± 5.2) fulfilling both RDC for schizoaffective disorder, and the criteria of Pull *et al* (1983) for *bouffée délirante*:

(i) Acute onset.
(ii) All of the following: delusions and/or hallucinations of any type; depersonalisation/derealisation and/or confusion; depression and/or elation; symptoms vary from day to day, even from hour to hour.
(iii) Not due to any organic mental disorder, alcoholism or drug abuse.

(c) Twenty-five subjects (10 men, 15 women, aged 25–48 years, mean ± s.d. 34.9 ± 8.1) meeting RDC for schizophrenia; (d) 25 subjects (10 men, 15 women, aged 25–49 years, mean ± s.d. 35.4 ± 7.5) meeting RDC for bipolar I disorder. Patients in groups (a) and (b) were consecutively recruited from the out-patient facilities of the First Psychiatric Department of Naples University, and patients in groups (c) and (d) were recruited from the in-patient and out-patient facilities of the same department, so as to obtain a similar age distribution and sex ratio.

The socio-demographic, historical and clinical features of the schizoaffective patients are summarised in Tables I and II. The following case reports give examples of each schizoaffective patient group.

Case reports

Case 1, group (a)

A 26-year-old girl was brought by her parents to our department. She was depressed and tearful, her speech incoherent. She had delusions of being controlled and other bizarre ideas (having snakes in her abdomen), intense feelings of guilt and auditory hallucinations (a voice repeating her thoughts), and reported a decrease of sleep and appetite. The patient had attempted suicide by a superficial wrist cut some days previously. According to her parents, there was no previous psychiatric history. As to pre-morbid personality, the girl was described as timid and reserved, with a small circle of friends, and very few male relationships. During the months preceding the onset of the episode, she had been engaged to be married for the first time, but she had soon broken the engagement because, she said, her fiancé was unemployed. The patient was admitted and treated with haloperidol (up to 10 mg daily) and amitriptyline (up to 100 mg daily). She was discharged, considerably improved, after two months.

Case 2, group (b)

A 24-year-old girl was brought by her mother to our department. She was elated, restless, and talked incessantly. Grandiose and persecutory ideas were manifested, but they were fragmentary and rapidly changing. Occasionally, she complained that someone interfered with her thinking. Perplexity and misidentifications were clearly present, and feelings of unreality were sometimes expressed. There was no evidence of hallucinations. Decreased sleep, sexual disinhibition, and eating of improper things were reported.

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TABLE II
Data concerning the first CPRS assessment in schizoaffective patients

Selected CPRS items	*% with a rating of at least 2*	
	Group (a) (n = 20)	*Group (b) (n = 18)*
Sadness	50.0	55.5
Elation	50.0	45.5
Depersonalisation	5.0	16.7
Derealisation	5.0	11.1
Feeling controlled	40.0	27.8
Disrupted thoughts	35.0	27.8
Ideas of persecution	65.0	50.0
Ideas of grandeur	40.0	33.3
Delusional mood	10.0	38.9
Commenting voices	25.0	22.2
Other auditory hallucinations	65.0	55.5
Visual hallucinations	15.0	33.3
Lack of appropriate emotion	25.0	11.1
Perplexity	0	22.2
Disorientation	0	22.2
Incoherent speech	35.0	22.2
Overactivity	40.0	33.3
Slowness of movement	35.0	27.8
Agitation	20.0	55.5

According to her mother, there was no previous psychiatric history. The onset of the episode had been acute, after surgery for appendicitis. Pre-morbid personality was described as characterised by difficulty in tolerating anyone regarded as 'authoritative', and excessive sensitivity to frustrations. The patient was admitted and treated with haloperidol (up to 12 mg daily), lithium carbonate (up to 900 mg daily) and diazepam (up to 10 mg daily). She completely recovered and was discharged after one month.

Data collection

All consenting first-degree relatives of the probands were directly interviewed, using the lifetime version of the Schedule for Affective Disorders and Schizophrenia (SADS-L; Endicott & Spitzer, 1978). Interviewers were blind to the proband's diagnosis. Direct interview was supplemented by the family history, collected from all available sources (other family members, health care providers, hospital records). The information concerning each relative was reviewed by an independent clinician, who assigned a 'best-estimate' diagnosis according to RDC. Out of 483 first-degree relatives, 349 could be interviewed. In the remainder, interview was not possible because of death, geographical distance, or refusal to participate. The proportion of relatives who could not be interviewed was almost the same in the four patient groups.

Data analysis

The risk for major psychiatric disorders was determined by the method of Weinberg (1925). The following risk periods were used: 15–70 years of age for major affective disorders, 15–50 years for schizophrenia, and 15–70 years for schizoaffective disorders. The χ^2 test with Yates' correction was used for statistical analysis.

Results

As shown in Table III, the relatives of group (a) patients had a significantly higher risk for schizophrenia, and a significantly lower risk for major affective disorders, compared with the relatives of bipolars, whereas they did not differ significantly from the relatives of schizophrenics. On the other hand, the relatives of group (b) schizoaffectives had a risk for schizophrenia significantly lower than the relatives of schizophrenics and not different from the relatives of bipolars, a risk for major affective disorders significantly lower than the relatives of bipolars and not different from the relatives of schizophrenics, and a risk for schizoaffective disorders which was higher, but not significantly, than the relatives of both schizophrenics and bipolars.

Discussion

The data concerning group (a) schizoaffectives confirm that the research findings obtained using RDC may be biased by the emphasis put in these criteria on the affective component of schizoaffective phenomenology. When patients showing simultaneously a full affective and a full schizophrenic syndrome are studied, the risk for major psychiatric disorders in first-degree relatives is not different from that of schizophrenics. This finding is in line with the outcome data reported by Williams & McGlashan (1987) in a similar patient sample, and supports the hierarchical relationship between the schizophrenic and the affective syndrome proposed by Jaspers (1962), which has been overturned in DSM-III (American Psychiatric Association, 1980). On the other hand, it is important to stress that no evidence of a mixed heredity was observed in these patients with both a full affective and a full schizophrenic syndrome, which speaks against the 'coincidence of two diseases' hypothesis.

The interpretation of the data concerning group (b) schizoaffectives is less clear. The first-degree relatives of these patients showed a low risk for both schizophrenia and major affective disorders, and a low total risk for major psychiatric disorders. The risk for schizoaffective disorders was higher than in the relatives of any other patient group, but not significantly. Moreover, in this group a history of perinatal complications was relatively frequent

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TABLE III

Morbidity risk for major psychiatric disorders in first-degree relatives of schizoaffectives, schizophrenics, and bipolars

Probands	*No. of relatives interviewed*	*Relatives*								
		Schizophrenia			*Major affective disorders*[2]			*Schizoaffective disorders*		
		Sample size[1]	n	*Risk (%)*[3]	*Sample size*[1]	n	*Risk (%)*[3]	*Sample size*[1]	n	*Risk (%)*[3]
Group (a)	81	49	3	6.1*	45.5	3	6.6*	45.5	1	2.2
Group (b)	76	47.5	0	0**	44.5	2	4.5*	44.5	2	4.5
Group (c)	95	55.4	5	9.0*	52.0	2	3.8*	52.0	1	1.9
Group (d)	97	57.0	0	0	53.0	7	13.2	53.0	1	1.9

1. Adjusted for period of risk.
2. Bipolar cases in relatives were one for groups (a–c), and four for group (d).
3. Overall group difference at $P<0.01$ by χ^2.
*Significantly different with respect to relatives of group (d), $P<0.05$.
**Significantly different with respect to relatives of group (c), $P<0.05$.

(16.7% v. 5% in group (a), 8% in group (c), and 4% in group (d)). One could cautiously speculate, therefore, that this subgroup of schizoaffective disorders includes a high proportion of forms not related to either of the major psychoses, part of which may breed true (as suggested by the relatively high risk for schizoaffective disorders in patients' relatives), and part of which may arise from environmental factors (as suggested by the low total risk for major psychiatric disorders in patients' relatives and by the high frequency of perinatal complications). The Japanese literature on 'atypical psychoses' and their relationship to epilepsy (Mitsuda, 1965) may be relevant in this last connection.

Thus, according to our data (which should be regarded as preliminary, owing to the small size of the patient samples), it seems that not *all* schizoaffective disorders are variants of either schizophrenia or major affective disorders. A better characterisation of the schizoaffective forms which escape the Kraepelinian binary paradigm, and a clarification of their nosological nature, appear to be major focuses for future research.

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