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PANIC DISORDER IN THE FAMILIES OF PATIENTS WITH NORMAL CORONARY ARTERIES AND NON-FEAR PANIC DISORDER

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Summary—Patients with non-fear disorder (NFPD) meet DSM-III-R criteria for panic disorder, but do not report subjective fear or anxiety. Although apparently common in medical settings, this controversial group is in need of further diagnostic validation. This study assessed family history of panic disorder in patients with chest pain and normal coronary arteries (CP/NCA) and either NFPD, panic disorder with fear, or no panic. It was hypothesized that the two panic disorder groups would have similar, elevated rates of panic disorder in their first-degree relatives, compared to patients without panic. The results support the hypothesis; about 17% of the first-degree relatives of both NFPD and panic disorder patients were diagnosable with panic disorder according to proband interviews, whereas only 4.6% of the first-degree relatives of patients without panic were so diagnosable. These results support the diagnostic validity of NFPD in CP/NCA patients, because such patients had a family history of panic disorder similar to patients with a more classical panic disorder presentation. The lack of fear symptoms and behavior in NFPD may cause panic disorder to be overlooked as a potential cause of somatic symptoms in patients with no medical explanation for their condition.

Several studies using structured psychiatric interviews have suggested that patients in medical settings may fit DSM-III-R criteria for panic disorder without reporting fear during recent major panic attacks (Beitman, Basha, Flaker, DeRosear, Mukerji & Lambert, 1987; Beitman, Kushner, Lamberti & Mukerji, 1990; Carter, Maddock, Amsterdam, McCormick, Waters & Billet, 1992; Katon, Vitaliano, Russo, Cormier, Anderson & Jones, 1986). The screening criteria for panic disorder in the DSM-III-R require 'intense discomfort or fear', thereby allowing for the diagnosis of panic disorder without fear, even though such a diagnosis may seem self-contradictory.

The term 'non-fear panic disorder' (NFPD) has been applied to distinguish this category from classical panic disorder. The diagnosis of NFPD requires that the patient experience neither 'free-floating' anxiety, nor fear of dying or fear of losing control during panic attacks. This diagnosis is controversial, and Kushner and Beitman (1990), in a review of the topic, suggest that further validity studies are required to establish NFPD as a panic disorder variant.

Feighner, Robins, Suze, Woodruff, Winokur and Munoz (1972) maintain that once a potential psychiatric phenomenon such as NFPD is described clinically, establishing its validity requires laboratory, treatment, longitudinal, and family studies. For NFPD, an important aspect of this validation process is to show that patients with NFPD are similar to patients with classical panic disorder with regard to these important dimensions.

Panic disorder, like many other psychiatric disorders, tends to run in families (Crowe, Noyes, Persico, Wilson & Elston, 1988). If, as we propose, NFPD is a variant of panic disorder, we would expect an increased risk of panic disorder in the first-degree relatives of these patients. This study reports findings of panic disorder history in the first-degree relatives of cardiology patients with chest pain and normal coronary arteries (NCA) and either NFPD, panic disorder with fear, or no panic disorder. We hypothesized that the first-degree relatives of NFPD/NCA patients would have an equivalent risk for panic disorder compared to NCA patients with classical panic disorder, and that both groups of relatives would show an increased risk for panic disorder compared to relatives of NCA patients without a panic diagnosis.

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METHOD

Subjects

Forty eight patients with angiographically normal coronary arteries and chest pain served as proband informants in this study. Potential Ss who had panic attacks at a subclinical frequency (less than one attack per week in the previous month) *(n* = 17) were excluded from this study.* The sample was composed of 15 women and 33 men, with a mean age of 56.60 yr (SD = 11.50 yr).t

Procedure

Forty-eight of the 94 patients originally described by Beitman, Mukeriji, Lamberti, Schmid, De Rosear, Kushner, Flaker and Basha (1989) were recontacted after approx. 3.5 yr. During the original contact, these patients had been recruited from the University of Missouri cardiology clinic at the time of their normal angiogram, and were administered a Structured Clinical Interview for DSM-III (SCID, Spitzer & Williams, 1983). Upon recontact, patients were administered a structured family interview (FISC adapted for DSM-III-R, Manuzza, Fyer & Endicott, 1985) covering panic disorder in all their biological, adult, first degree relatives aged 18 or older, living or deceased, for whom there was adequate information. All family history interviews were conducted with the interviewer blind to the proband's SCID diagnosis. Eighteen probands completed the FISC in person at the University of Missouri Psychiatry Clinic, and 30, who were unable to come to the clinic, completed the FISC by telephone interview. [Previous studies have shown that diagnostic interviews conducted by telephone have acceptable inter-rater reliability with in-person interviews (Colombotos, 1969).]

Subject grouping

For all study analyses, probands and their first-degree relatives were grouped using proband panic disorder diagnosis. Based on the Structured Clinical Interview for DSM-III-R (SCID, Spitzer & Williams, 1983), seven probands were diagnosed with Non-Fear Panic Disorder (NFPD probands), 12 were diagnosed with Panic Disorder with Fear (PD probands), and 29 had no panic disorder (No Panic probands). Both NFPD and PD probands had at least one panic attack with at least four or more symptoms per week in the previous month. NFPD probands were distinguished by denying subjective anxiety or fear of dying or losing control during their panic attacks. Proband and relative demographic characteristics are shown in Table 1. As indicated, the only significant difference among proband groups is that PD and NFPD probands were younger than No Panic probands.

RESULTS

A chi-square test indicated that there was an overall significant difference among the three proband groups in percent of first-degree relatives with panic disorder [CH` (d.f. = 2, n = 404) = 17.81, $P < 0.01$]. The figure shows that 10 of 58 (17.24%) first-degree relatives of NFPD probands met FISC panic disorder criteria, and 19 of 109 (17.43%) first-degree relatives of PD probands met FISC panic disorder criteria, but this was true for only 11 of 237 (4.60%) first-degree relatives of No Panic probands. Two-by-two sub-comparisons indicated that there was a significant difference between both PD and NFPD and the No Panic probands [$x2$ (d.f. = 1, n = 346) = 13.70, $P < 0.01$; x^2 (d.f. = *1, n* = 295) = 8.29, $P < 0.01$, respectively]. However, no significant difference was noted in the percent of first-degree relatives with panic disorder between NFPD and PD proband groups. These results indicate that the primary hypothesis of the study, that the occurrence of panic disorder in the first-degree relative of NFPD probands would be similar to that of first-degree relatives of PD probands rather than that of No Panic probands, was supported.

*Although family history for patients with subclinical panic was investigated (see Kushner, Thomas. Bartels & Beitman, 1992), these patients were excluded from the current study because the interviewers failed to distinguish fearful and non-fearful panic attacks in these patients.

tFor further description of the original sample from which these probands were drawn, see Beitman *et al.* (1989).

Table I. Characteristics of probands and first degree relatives

	NFPD proband	PD proband	No Panic proband	Overall F-value
Probands				
Gender				
Males (%)	5(71.73)	9 (75.00)	19 (65.62)	0.38*
Females (%)	2(28.57)	3 (25.00)	10 (34.48)	
Age				
M (yr)	50.86'	51.42'	60.21°	3.52•
SD (yr)	11.68	11.63	11.40	
First-degree relatives				
Number	58	109	237	
M (n/family)	8.29	9.08	8.17	0.25
SD (n/family)	3.64	4.72	3.40	
Gender				
Males (%)	27 (46.55)	59 (54.12)	123 (51.90)	0.66
Females (%)	3 1 (53.45)	50 (45.88)	1 14 (48.10)	
Age				
M (yr)	51.47	48.31	54.32	2.32
SD (yr)	9.30	6.16	8.67	

•P <0.05.
*CH' value.
Groups marked with different superscripts indicate significantly different group values (Tukey studentized range test, s = 0.05).

DISCUSSION

The strong family history of panic disorder in NFPD patients supports the view that this condition is a variant of panic disorder. The NFPD subtype represents an important contribution in clinical diagnostics for several reasons: (a) panic disorder is often overlooked in medical settings, despite its demonstrated relation to somatic symptomatology (Beitman, Kushner, Mukerji, Thomas, Russell & Logue, 1992); (b) in both medical and psychiatric settings, non-fear panic disorder may be overlooked as a potential diagnosis because clinicians automatically assume that

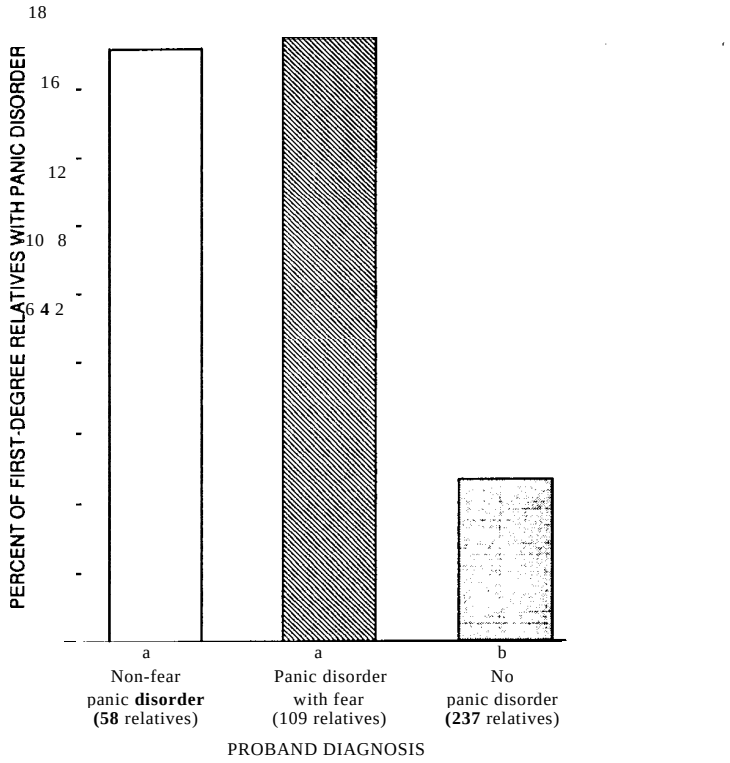

Fig. I. Percent of first-degree relatives with panic disorder in NCA probands with non-fear panic disorder, panic disorder with fear, and No Panic. Bars marked with different letters beneath indicate significantly different (P <0.05) group values.

panic attacks are accompanied by fear (Beitman *et al.,* 1990); and (c) acknowledgement of non-fear panic disorder as a possible diagnosis may lead to a better estimate of panic disorder prevalence in the general, non-psychiatric medical population (Kushner & Beitman, 1990).

However, the present study does have several methodological limitations which need to be considered. First is the validity of using proband informants to gather a family history of psychiatric illness. Previous studies, however, have indicated that proband informants actually under-report psychiatric illness in their family members (Zimmerman, Coryell, Pfohl & Stangl, 1988). Therefore, had we been able to directly interview the first-degree relatives of probands, higher rates of panic disorder would have been expected, thereby strengthening, rather than weakening, our findings.

Second, classification of probands into groups was based on a single psychiatric interview, which took place approx. 3.5 yr before the family history interview. It is possible, for example, that some No Panic probands actually developed panic disorder by the time of the family history interview, and thus were in the wrong group. However, again, this observation would tend to work against confirming study hypotheses and so does not appear to affect our conclusions.

The family history interview also was not sufficiently sensitive to determine if first-degree relatives with panic disorder had panic attacks with or without fear. Depending on whether NFPD is familial as a panic subtype, we might have found that NFPD probands' first-degree relatives had an increased risk for non-fear panic disorder, compared to PD probands' first-degree relatives. However, this question awaits further study.

This study used patients from a cardiology clinic only, but Katon *et al.* (1986) and Russell, Kushner, Beitman & Bartels (1991), suggest that other medical populations may also experience non-fear panic disorder. Descriptive and validating studies, including family history studies, for non-fear panic disorder in other patient populations would further support the nosological validity of NFPD.

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