The Prevalence of Borderline Personality Disorder in a Consecutive Sample of Cardiac Stress Test Patients

To the Editor: There are a number of empirical studies that have examined prevalence rates of borderline personality disorder (BPD) in various medical syndromes. Elevated rates of BPD have been associated with somatoform and fictitious disorders[1]; somatic preoccupation[2]; medically self-harming behavior among both psychiatric inpatients[3] and internal medicine outpatients[4]; interference with wound healing[5]; chronic pain sydnromes[6]; various other "syndrome-like" conditions (eg, chronic fatigue, fibromyalgia) as well as osteoarthritis, diabetes, and hypertension[7]; and medical disorders such as hypertension, hepatic disease, cardiovascular disease, and "any assessed medical condition."[8] However, several studies report rates of BPD in specific medical populations that are comparable to rates for the disorder encountered in the general population (eg, various pain syndromes,[9,10] pain medication use,[11] and various psychophysiologic disorders[10]). Indeed, the factors that influence associations between BPD and various medical phenomena are poorly understood.

In this study, we examined the prevalence of BPD in a consecutive sample of cardiac stress test patients to determine if cardiac symptoms might be overrepresented among individuals with BPD.

Method. Participants in this study were consecutive male or female patients aged 18 years or older undergoing cardiac stress testing in a community hospital from June 6, 2010, to September 3, 2010. The sample was drawn from a middle-to-high socioeconomic suburb of a medium-sized midwestern city. Exclusion criteria were medical (eg, pain), psychiatric (eg, psychosis), or intellectual disturbances that would preclude the successful completion of a survey booklet. Two recruiters approached 302 candidates and enrolled 251 participants, for a response rate of 83.1%.

Among the 251 participants, 118 were male and 133 female; age ranged from 20 to 91 years (mean = 58.00, SD = 13.85). The large majority were white (93.2%), followed by black (3.2%), Native American (1.6%), other ethnicity (1.2%), and Asian (0.4%). One respondent (0.4%) did not indicate ethnicity. With regard to education attainment, 19 (7.6%) had not finished high school, 73 (29.1%) had only a high school diploma, 74 (29.5%) had attended college but had no degree, 12 (4.8%) had earned a 2-year degree, 31 (12.4%) had earned a 4-year degree, and 39 (15.5%) had earned a graduate degree. Three respondents (1.2%) did not indicate their educational attainment.

Following an explanation of the research project and the signing of consent forms, each participant completed a survey booklet that explored demographic information and contained 2 measures of BPD: (1) the BPD scale of the Personality Diagnostic Questionnaire-4[12] (PDQ-4) and (2) the Self-Harm Inventory (SHI).[13] Survey booklets were then placed in sealed envelopes and stored, pending analysis. This project was approved by the institutional review boards of the participating hospital and the local university.

Results. Using the traditional cutoff scores of 5 for each meaure, 15 individuals (6.0%) scored positively on the PDQ-4 and 12 (4.8%) scored positively on the SHI; 5 (2.0%) scored positively on both measures, whereas 22 (8.8%) scored positively on either one measure or the other. In comparing the demographic profiles between those respondents who scored positively on either measure versus those respondents who scored negatively on both measures, there were no differences with regard to sex ($\chi^2 = 0.58$, $P < .51$). Similarly, there were no between-group differences in comparing white respondents to respondents of any other race ($\chi^2 = 2.09$, $P < .15$) or respondents with no more than a high school education to those with at least some college education ($\chi^2 = 0.01$, $P < .95$). However, those who scored positively on either measure of BPD were younger (mean = 48.77 years, SD = 13.01) on average compared to those who scored negatively on both measures of BPD (mean = 58.91 years, SD = 13.66) ($F_{1,248} = 11.14$, $P < .001$).

How do the preceding rates in this study compare with general community rates? While the *DSM-IV-TR* states that the prevalence of BPD in the general population is 2%, Grant et al,[14] in the National Epidemiologic Survey on Alcohol and Related Conditions, found a prevalence rate for BPD of 5.9%. With the exception of the percentage of respondents who were positive on either one measure or the other (but not both), all remaining prevalence findings in this study are at or below the recent US community prevalence rate determined by Grant et al.[14] In other words, we did not find elevated rates of BPD in this sample of patients undergoing cardiac stress testing.

A number of factors may explain these findings. First, individuals with BPD may gravitate away from disorders with definitive diagnoses (ie, cardiac disease). Second, the higher socioeconomic level of the study's geographic area may have precluded lower-functioning individuals with BPD. Third, referring clinicians and participating cardiologists may have deferred for cardiac stress testing those individuals with somatic features. Fourth, BPD measures with symptom criteria that are based on studies in younger populations (eg, self-cutting) may have underdetected symptoms in an older population.

This is the first study to examine the prevalence of BPD in a population undergoing cardiac stress testing. Findings are potentially limited by the use of self-report measures for BPD. However, self-report measures run the risk of being overinclusive, and the prevalence rates for BPD in this study generally did not exceed general population norms. In addition, we used 2 measures of BPD, obtained a consecutive sample, and captured a reasonable sample size of patients. According to these findings, BPD is not overrepresented among patients who are referred for cardiac stress testing.

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