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Research report

Antisocial personality disorder and borderline symptoms are differentially related to impulsivity and course of illness in bipolar disorder

Alan C. Swann*, Marijn Lijffijt, Scott D. Lane, Joel L. Steinberg, F. Gerard Moeller

Department of Psychiatry and Behavioral Sciences, the University of Texas Health Science Center, Houston, TX, USA

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ABSTRACT

Background: Interactions between characteristics of bipolar and Axis II cluster B disorders are clinically and diagnostically challenging. Characteristics associated with personality disorders may be dimensional aspects of bipolar disorder. We investigated relationships among antisocial personality disorder (ASPD) or borderline personality disorder symptoms, impulsivity, and course of illness in bipolar disorder.

Methods: Subjects with bipolar disorder were recruited from the community. Diagnosis was by structured clinical interview for DSM-IV (SCID-I and -II), psychiatric symptom assessment by the change version of the schedule for affective disorders and schizophrenia (SADS-C), severity of Axis II symptoms by ASPD and borderline personality disorder SCID-II symptoms, and impulsivity by the Barratt impulsiveness scale (BIS-11).

Results: ASPD and borderline symptoms were not related to clinical state or affective symptoms. Borderline symptoms correlated with BIS-11 impulsivity scores, and predicted history of suicide attempts independently of the relationship to impulsivity. ASPD symptoms were more strongly related to course of illness, including early onset, frequent episodes, and substance-related disorders. These effects persisted after allowance for gender and substance-use disorder history.

Conclusions: Personality disorder symptoms appear to be dimensional, trait-like characteristics of bipolar disorder. ASPD and Borderline symptoms are differentially related to impulsivity and course of illness.

1. Introduction

The diagnostic boundaries of bipolar disorder are problematic. Cluster B personality disorders, including antisocial personality disorder (ASPD) and borderline personality disorder, share core features of impulsivity and affective instability with bipolar disorder (Fan and Hassell, 2008; Henry et al., 2001). Cluster B disorders could be part of a broad bipolar spectrum (Perugi and Akiskal, 2002), representing an attenuated form of bipolar disorder, as suggested by Kraepelin (1921). Alternatively, characteristics of cluster B personality disorders could combine with other aspects of bipolar disorder in a dimensional manner, potentially representing a more complicated form of the illness, with increased impulsivity (Dunayevich et al., 2000; Henry et al., 2001; Swann et al., 2009b). For example, one study suggested that most patients with borderline personality disorder also met criteria for bipolar disorder (Deltito et al., 2001). However they are related, characteristics associated with cluster B personality disorders in patients with bipolar disorder result in diagnostic difficulties and high social cost.

1.1. Impulsivity in bipolar and cluster B disorders

The high reported comorbidity of bipolar disorder and cluster B personality disorders (Fan and Hassell, In press; Gunter et al., 2008; Wilson et al., 2007) may be related to a shared component, such as impulsivity. One study found that trait impulsivity was mutually increased in bipolar disorder and borderline personality disorder compared to individuals with only one of these diagnoses (Wilson et al., 2007). Potential impulsivity-related complications of bipolar disorder, including alcohol or substance use disorders (Kay et al., 1999, 2002; Swann et al., 2004), suicidal behavior (Garno et al., 2005; Swann et al., 2005), and criminal behavior (Mueser et al., 2006) may be more likely if a concurrent personality disorder is present. These characteristics are consistent with increased impulsivity, but there is little direct evidence for this relationship. Further, characteristics associated with a personality disorder are not the same as the personality disorder itself, and may have either different or shared mechanisms across diagnostic entities.

* Corresponding author. Tel.: +1 713 486 2555; fax: +1 713 486 2553.
E-mail address: Alan.C.Swann@uth.tmc.edu (A.C. Swann).

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Bipolar disorder resembles ASPD and borderline personality disorder in many respects (Mueser et al., 2006). Bipolar disorder and borderline personality disorder share propensities for affective instability and impulsivity (Akiskal, 2004; MacKinnon and Pies, 2006). One study found that 44% of over 600 subjects with borderline personality disorder also met strict diagnostic criteria for bipolar I or II disorder (Deltito et al., 2001). Bipolar disorder is associated with higher rates of arrest and incarceration (Calabrese et al., 2003), and higher prevalence among incarcerated individuals, than community controls (Brinded et al., 2001;Kemp et al., 2008). Early onset of bipolar disorder is associated with juvenile antisocial behavior (Barzman et al., 2007) and greater likelihood of arrest (Gillberg et al., 1993). A 13-year prospective study found increased likelihood of subsequent arrest in a nonclinical sample of adolescents with high hypomania scores (Kwapil et al., 2000).

Personality disorders or their characteristics may be associated with a more severe or unstable course of bipolar disorder (Dunayevich et al., 2000; Garno et al., 2005; Henry et al., 2001; Kay et al., 2002). Individuals with bipolar disorder who had been arrested had more hospitalizations than those who had not (Quanbeck et al., 2005) and were more likely to be experiencing manic symptoms (Quanbeck et al., 2004). These findings could reflect impulsivity or more severe mood instability as characteristics of cluster B personality disorder superimposed on bipolar disorder, or characteristics of bipolar disorder itself that resemble those of a personality disorder.

We reported that, among subjects with ASPD, there was a significant correlation between number of ASPD symptoms and impulsive errors on a test of response inhibition (Swann et al., 2009c). Cluster B personality disorders may therefore represent dimensional characteristics that can combine with other disorders, rather than discrete categorical entities. Not much is known about the specificity of relationships between impulsivity and specific cluster B disorders. It has been suggested, for example, that ASPD and borderline personality disorders are analogous disorders expressed differently according to gender (Looper and Paris, 2000; Paris, 1997). Yet, there is little information about the manner in which ASPD and borderline personality disorder traits may interact, or about their specific interactions with bipolar disorder.

1.2. Rationale and hypotheses

We investigated relationships among severity of personality disorder characteristics, measured as ASPD or borderline personality disorder SCID-II symptom counts, course of illness, and impulsivity in subjects with bipolar disorder. Our hypotheses were that (1) ASPD and borderline personality disorder symptoms would be related to clinical state and impulsivity, (2) ASPD and borderline personality disorder symptoms would be related to course of illness including recurrence and comorbid disorders, and (3) if ASPD and borderline personality disorder characteristics are analogous conditions in men and women, one would expect that ASPD symptoms would be related to impulsivity and illness course in men, while borderline personality disorder symptoms would have this relationship in women.

2. Methods

2.1. Subjects

Potential participants, referred by clinicians or responding to advertisements, were fully informed of the procedures, risks, and benefits of the study, and signed informed consent documents, before any study-related procedures took place. The study was approved by the Committee for the Protection of Human Subjects, Institutional Review Board (IRB) for the University of Texas Health Science Center at Houston. Subjects were required to have negative breath alcohol and urine screens for drugs of abuse when they were tested.

All subjects had bipolar disorder, and had at least one symptom of ASPD or borderline personality disorder from the SCID-II. Of the 55 subjects, 14 did not meet criteria for an Axis II disorder (8 men and 6 women); 35 met criteria for ASPD (20 men and 15 women), 23 (8 men and 15 women) met criteria for borderline personality disorder, and 17 (7 men and 10 women) met criteria for both disorders. Four met criteria for bipolar II disorder; the rest had bipolar I disorder; subjects with bipolar-1 vs. bipolar II disorders did not differ in ASPD or borderline personality disorder symptoms, BIS-11 scores, or total episodes of illness (Student t or Mann–Whitney test, $p > 0.6$).

As noted below, subjects were allowed to have histories of a drug or alcohol use disorder, and most did. However, to avoid interference with tests in the current study, subjects were required to have negative urine drug screens and breathalyzer tests when they were studied, and not to have met criteria for an active substance-use disorder for at least one month.

Course of illness for subjects with bipolar disorder was determined using a life chart of episodes based on the SCID. The median age of onset was 17 (25th–75th percentile 13–22). Distributions of numbers of episodes could not be normalized; further, as the number of episodes increases, the accuracy of determining their exact number is likely to decrease. Therefore, we either used nonparametric statistics or categorized the number of episodes. For manic/hypomanic episodes, 16 subjects had fewer than 10 episodes; the median number of episodes was too many to count (in 32 subjects). For depressive episodes, 21 subjects had fewer than ten, and the median number of depressive episodes was too many to count (in 26 subjects). For total episodes, nine subjects had fewer than ten; the median was too many depressive or manic episodes to count plus at least 3 episodes of the other polarity. Twenty subjects had too many depressive and too many manic episodes to count. Twenty subjects had predominately manic episodes, 8 predominately depressive, and in 27 neither depressive nor manic episodes predominated. Forty-two subjects had histories of substance use disorders while 17 did not; 29 had histories of alcohol use disorders, 37 stimulant use disorders, and 24 had both. Twenty-nine had made suicide attempts while 20 had not. Numbers varied according to availability of information.

2.2. Diagnosis and clinical state

Diagnoses, including substance abuse or dependence, were rendered by the structured clinical interview for DSM-IV (SCID) (First et al., 1996). Symptoms were rated using the change version of the schedule for affective disorders and schizophrenia (SADS-C), designed to measure depressive, manic, anxiety, and psychotic symptoms concomitantly (Spitzer and Endicott, 1978b). We used the augmented version of the SADS-C (Bowden et al., 1994), including all ten mania rating scale items from the full SADS (Spitzer and Endicott, 1978a), rather than the subset of five items in the conventional SADS-C (Spitzer and Endicott, 1978b).

Severity of cluster B disorder was assessed using the number of ASPD or borderline personality disorder lifetime symptoms endorsed (SCID-II (First et al., 1997)); structured interviews have been reported to produce more reliable measures of personality disorder severity than questionnaires (Fogelson et al., 1991) and symptom counts appear to be a useful measure of overall severity Maffei et al., 1997. In the subset of patients endorsing any ASPD or borderline personality disorder symptoms, for whom the