Defense style in panic disorder before and after pharmacological treatment

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ABSTRACT

Whether or not the use of maladaptive defense style is a trait, as opposed to a state dependent phenomenon, in panic disorder (PD) is a topic still very much up for debate. The aim of the study was to verify whether PD patients, both before and after treatment, used different defense style than the control group. Sixty-one PD patients (recruited from an original sample of 90 patients) and 64 healthy controls were evaluated against the Structured Clinical Interview for DSM-IV disorders, the Symptoms Check List-90, the Hamilton Rating Scales for Anxiety and for Depression and finally the Defense Style Questionnaire-40 (DSQ). The patients were treated with paroxetine or citalopram and were evaluated monthly for one year to assess the remission. The DSQ was re-administered to the patients at the end of the study. Before treatment, PD patients used more neurotic and immature forms of defense than controls. After treatment, those in remission used the same defense styles as the control group, whereas non-remitters still used more immature defenses. However, all the aforementioned difference disappeared, after excluding the effect of symptom severity. Our data supports the hypothesis that the use of maladaptive defenses might be the consequence of PD: when subjects fall ill, their capacity to use mature adaptive defenses may diminish, but when they recover their defensive style returns to a greater maturity. The present results are however limited by the dropout rate (one third of patients did not complete the study) and the use of just one questionnaire to evaluate the complexity of defense styles.

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1. Introduction

According to psychodynamic theory, subjects with a particular difficulty in acknowledging feelings of anger, which they find to be a threat to important attachments to persons they feel dependent on, are considered to be psychologically vulnerable to panic disorder (PD) (De Masi, 2004; Shear et al., 1993). It is postulated that defense mechanisms are involved in controlling anxiety and other intense negative emotions in an effort to protect a needed relationship (De Masi, 2004; Perry and Cooper, 1989). As such, the use of maladaptive defenses might be involved in the onset, persistence and recurrence of anxious symptoms (Busch et al., 1995).

Nevertheless, the study of defense mechanisms in PD patients gives contradictory results. A greater use of neurotic and immature defenses were found not only in PD patients (Bogren et al., 2002; Busch et al., 1995; Kipper et al., 2004, 2005; Pollack and Andrews, 1989; Spinshoven and Kooiman, 1997) but also in patients affected by other mental disorders such as obsessive–compulsive disorder, social phobia and major depression (Akkerman et al., 1999; Andrews et al., 1989; Kneempens and Oakley, 1996; Mullen et al., 1999; Pollock and Andrews, 1989), which confirms that defense mechanisms are not specific for any one mental disorder (Bond, 2004; Bond et al., 1983; Bond and Vaillant, 1986). Moreover, the use of less mature defenses was found to be associated with the severity of symptoms, and the clinical improvement was accompanied by a shift toward the use of more mature defenses (Bond, 2004). This finding leaves the question regarding the causal relationship between the defense style and symptoms severity unresolved. This means that the hypothesis that the use of maladaptive defenses is a state-dependent phenomenon cannot be rejected yet (Bond, 2004; Bond and Perry, 2004; Holli et al., 1999; Sammallahti et al., 1994).

Finally, it has been postulated that persons with an immature defense style will respond less effectively to both pharmacological (Kipper et al., 2005, 2007) and psychological (Bond and Perry, 2004; Drapeau et al., 2003; Heldt et al., 2003, 2007) treatment. However, most of these studies did not control the effect of variables known to negatively influence the outcome of treatment.

Therefore, in the present study the defense style was assessed in PD patients to verify whether: 1) they used less adaptive defense mechanisms compared to healthy controls; 2) a successful treatment might change the defense style; 3) the response to treatment might be predicted by the pre-treatment defense style, controlling for the effect of confounding variables.

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2. Methods

2.1. Sample

Subjects were recruited in the study after giving their informed consent (the study protocol was approved by the Local Ethics Committee). They were all out-patients who consecutively sought treatment for panic disorder (PD) at the Centre for Mood and Anxiety Disorder of the Psychiatric Clinic of the University of Parma—Italy since January 2001. PD was the first mental disorder diagnosed in all patients.

Patients with severe suicidal risks, schizophrenia or other psychotic disorders, organic mental disorders, substance abuse or dependence, history of neurological or medical illnesses (i.e. cardiovascular, haematological, liver, respiratory, endocrinological diseases) were excluded from the study.

The control group, selected from the relatives of university employees, was chosen to match the age and sex of the test subjects, but precluded those with lifetime mental disorders and chronic medical illness (see assessment). All participants gave their informed consent.

2.2. Assessment

During the first visit, all subjects received the Structured Clinical Interview for Diagnostic and Statistical Manual for Mental Disorders—IV edition (SCID-IV) (Mazzi et al., 2000), the Symptoms Checklist-90 (SCL-90) (Derogatis, 1977), the Hamilton Rating Scale for Anxiety (Hamilton, 1959) (Ham-A) and for Depression (Hamilton, 1960) (Ham-D), the Defence Style Questionnaire-40 items (DSQ-40) (Andrews et al., 1993) and a semi-structured interview performed ad-hoc to collect clinical and anamnestic information.

Furthermore, patients received a diary, where they registered the daily frequency and severity of panic attacks and anticipatory anxiety (American Psychiatric Association, 1998; Shear et al., 1998).

All patients were followed over 12 months. During the follow-up period, they were evaluated monthly; during each visit the SCL-90, Ham-A and Ham-D were administered and the panic diaries were evaluated to assess the resolution of symptoms. Moreover at the end of the follow-up period the DSQ-40 was re-administered.

Controls were evaluated with SCID-IV (to detect and exclude the presence of mental disorders), a semi-structured interview to collect socio-demographic and anamnestic information (to exclude the presence of mental disorders in family members), SCL-90, Ham-A, Ham-D and DSQ-40 (this questionnaire was administered once).

Two psychiatrists (CDP and SA) were specifically trained to administer the SCID-IV. The training consisted of the administration of the SCID-IV to 10 patients affected by Panic Disorder, Major Depression, Dysthymia, and Generalized Anxiety Disorder. Regarding the PD diagnosis, a good reliability was obtained during both the training phase (κ= 0.85) and the screening phase of the study (κ= 0.89). The psychiatric diagnoses of patients included in the study were also discussed with a senior psychiatrist (CM).

Using DSQ-40, the mature, neurotic and immature defenses and the overall defensive functioning (ODF) scores were all calculated. The ODF was obtained according to the method used by Trijsburg et al. (2000).

2.3. Treatment

All patients were treated with paroxetin or citalopram at an initial dose of 10 mg, which was maintained for 1 week and then increased by 10 mg up to the dose at which symptoms disappeared or side-effects became intolerable. However, the maximum daily dose was limited to 60 mg.

From the study outset, lorazepam (LRZ) was allowed be added, when necessary, to control anticipatory anxiety and insomnia, as well to reduce anxiety, insomnia, tremulousness and tachycardia induced by the selective serotonin re-uptake inhibitor. LRZ treatment started with a minimum dose of 1 mg/day (0.5 mg, twice/day), which was increased up to a maximal dose of 3 mg (1 mg, three times/day). After 2 months of treatment, LRZ was slowly tapered (1 mg/week).

2.4. Remission criteria

Patients were defined as being in remission (Ballenger et al., 1998) if, for a period of 3 months, they reported: 1) no panic attacks and anticipatory anxiety in their daily diary; 2) a score of lower than 1 according to the phobic anxiety subscale of SCL-90 for phobic avoidance (SCL-90-pa) (den Boer, 1998); 3) a total score, in the Ham-A, of lower than 10 for global severity of anxiety symptoms (Ballenger, 1995, 2001; Doyle and Pollack, 2003); 4) and a total Ham-D score lower than 7 for depressive symptoms (Ballenger, 1999, 2001; Doyle and Pollack, 2003).

2.5. Statistical analysis

Comparisons between-groups were made with the χ² test for categorical variables, and with the student’s t-test (two tailed) or one-way analysis of variance (ANOVA) with the Bonferroni post-hoc analysis for numerical variables.

The analysis of covariance (ANCOVA) was used for testing the hypothesis that the use of maladaptive defenses is involved in the onset, persistence and recurrence of anxious symptoms (Busch et al., 1995). If the differences of symptom severity between the diagnostic groups disappeared after controlling for the effect of defense style, the hypothesis would be confirmed. Therefore, in the analysis the symptom severity scores (Ham-A, Ham-D and SCL-90-pa) were entered as dependent variables, the diagnostic groups as independent variables and defense scores as covariates (with mature, neurotic and immature defenses in one analysis and ODF in another one).

Nevertheless, to account for the possibility that the use of maladaptive defenses might be the consequence of the PD, an ANCOVA analysis was used to verify whether the differences on defense scores between diagnostic groups disappeared after controlling for the effect of symptom severity. Therefore, in the analysis the defense scores were entered as dependent variables, the diagnostic groups as independent variables and the symptom severity scores as covariates.

Finally, two logistic regressions were used to evaluate whether the pre-treatment DSQ-40 scores predicted the outcome of treatment. To the analysis, the outcome of treatment (remitted vs non-remitted patients) was entered as a dependent variable and DSQ-40 scores (mature, neurotic and immature defenses in one analysis and ODF in the other one) as independent variables, together with all the following confounding variables known to influence the outcome of treatment: gender, age at onset and duration of PD, symptoms severity and anxious and depressive comorbidity.

All data analyses were performed using the statistical software package SPSS 17.0.

3. Results

3.1. Sample

Out of the original sample (90 patients), 61 patients completed the study, whereas 29 patients dropped-out (six due to side-effects, six due to inefficacy, seven due to improvement, and ten were lost during follow-up). Socio-demographic and clinical features were similar in patients who completed the study and in those who dropped-out (Table 1).

The study was completed by 43 women (70.5%) and 18 men (29.5%) from the PD group, and 45 women (70.3%) and 19 men (29.7%) from the healthy controls. The socio-demographic characteristics of patients and controls were shown in Table 1.

3.2. Pre-treatment assessment

3.2.1. Axis I comorbidity

Agoraphobia was found in 47 patients (77%) and at least one other anxiety disorder was diagnosed in 22 patients (36.0%, consisting of social phobia in 13, generalized anxiety disorder in 11, obsessive-compulsive disorder in 8). Major depression was diagnosed in 23 patients (37.7%).

3.2.2. Symptoms severity

PD patients showed higher Ham-A, Ham-D and SCL-90-pa scores than controls (Table 1). Symptom severity was higher in non-remitting (NR) patients than in remitting (R) patients (Table 2).

After controlling for defenses (mature, neurotic and immature) or ODF, the differences between PD patients and healthy subjects when comparing anxious (ANCOVA, defense style: F= 43.4; df= 2,125; P< 0.001; ODF: F= 55.0; df= 2,125; P< 0.001), phobic (ANOVA, defense style: F= 29.7; df= 2,125; P< 0.001; ODF = 54.4; df= 2,125; P< 0.001) and depressive (ANOVA, defense style: F= 42.1; df= 2,125; P< 0.001; ODF = 38.9; df= 2,125; P< 0.001) symptoms remained.

3.2.3. Defense style

PD patients used more neurotic and immature defenses than controls, whereas the two groups did not show any difference in the use of mature defenses (Table 1). Moreover, the ODF was lower in PD patients than in controls (Table 1).

Among PD patients, the use of neurotic and immature defenses was higher in NR patients than in R patients (Table 2). Similarly, the ODF score was lower in NR patients than in R patients (Table 2).

After controlling for the effect of symptom severity, the differences in neurotic and immature defenses or in the ODF between PD patients
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