COMORBIDITY OF PERSONALITY DISORDERS AND MAJOR DEPRESSION IN PATIENTS WITH SOMATOFORM PAIN DISORDERS OR MEDICAL ILLNESSES WITH LONG-STANDING WORK DISABILITY

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ABSTRACT. The comorbidity between major depression and personality disorders in patients with long-standing work disability at a rehabilitation clinic was investigated. Sixty patients with a somatoform pain disorder and 66 patients with different medical illnesses were assessed by means of a self-rating scale for major depression, and the SCID screen personality disorder questionnaire. In the total series, 27% of the patients had a diagnosis of major depression and 34.9% had at least one personality disorder. Personality disorders were significantly more common in patients with medical illness than in patients with a somatoform pain disorder. There was a high frequency of comorbidity between major depression and personality disorders, especially borderline and avoidant personality disorders. If this is due to a common pathogenetic mechanism, it could explain why SSRIs are effective in both depression and some personality disorders.

Key words: comorbidity, major depression, personality disorders, somatoform pain.

INTRODUCTION

A high comorbidity between depression on Axis I and personality disorders has repeatedly been reported (8). Generally, 30% to 70% of depressed patients have been found to have a comorbid personality disorder (24, 26). However, there are many methodological problems involved when the possible effects of the symptomatic state, e.g. anxiety or depression, are to be separated from the reports about stable personality traits (35). The high frequency of comorbidity has been demonstrated to generalize to individuals who have a lifetime history of depression and the overall rate of personality disorders has been demonstrated to be similar in acutely hospitalized patients and their depressed relatives (34). Furthermore, Loranger et al. (19), in a study concerning the trait–state effects, found no evidence showing that anxiety or depression affects either the diagnosis of a personality disorder or the criteria associated with most of the individual personality disorders. The stability of the presence or absence of any personality disorder was acceptable with a kappa of 0.55. No correlations between symptom ratings of anxiety or depression and number of Axis II criteria met were significant. They provided no evidence for the existence of a trait–state artefact. In the same way, Alnæs & Torgersen (1) reported that personality disorders are no more common among the more severe affective disorders or among the severe anxiety disorders than among other symptom disorders. Thus, further studies concerning comorbidity of major depression on Axis I and the presence of personality disorders on Axis II seem of interest.

A better understanding of the comorbidity between major depression and personality disorders is important as this type of comorbidity seems to have important implications for the course of the disorder and the response to treatment. A long series of studies suggests that the presence of a personality disorder results in a worse course and poorer response to treatment of the Axis I disorder. In a review, McGlashan (22) found comorbid personality pathology to be a negative predictor of outcome in patients with depressive disorders. In a review comprising 21 studies, Reich & Green (29), concluded that it is clear that personality pathology is a negative predictor of outcome. The specific Axis I disorders studied included major depression and both inpatients and outpatients were included. The range of treatments studied included tricyclic antidepressants, monoamine oxidase inhibitors, electroconvulsive therapy, individual psychotherapy and group psychotherapy. In a later update (30), covering a further 17 studies, it was

concluded that recent studies continue to describe an adverse impact on the treatment outcome of a wide range of Axis I disorders if personality pathology is present.

A better understanding of the comorbidity between major depression and personality disorders might also be helpful in elucidating the somewhat surprising fact that our most selective drugs, the selective serotonin reuptake inhibitors (SSRIs), are effective in the treatment of a variety of psychiatric disorders such as panic disorder, obsessive–compulsive disorder (OCD), eating (e.g. anorexia and bulimia) and personality disorders (e.g. anger, impulsiveness) and substance abuse (e.g. alcoholism); early results with fluvoxamine in the treatment of panic disorder and OCD, and with fluoxetine in the treatment of bulimia, personality disorders and alcohol abuse have been documented (13).

Furthermore, although it is well known from clinical experience that comorbidity is common in rehabilitation patients, the scientific documentation is weak.

Thus the aim of the present study was to elucidate the comorbidity between major depression and personality disorders in a series of patients with long-standing work disability, treated at a rehabilitation clinic. The specific aim was to seek to elucidate the psychiatric factors, or perhaps the common denominator, resulting in the treatment difficulties and the prolonged course in these patients with a somatoform pain disorder or a medical illness.

MATERIALS AND METHODS

Patient series

In total, 178 patients were treated at the National Assurance Rehabilitation Clinic at the time for the investigation. All patients were referred to the clinic due to long-lasting work disability and sick-leave. The main reason for referral was to clarify somatic and psychiatric morbidity. The patients were assigned to two diagnostic groups with respect to the presence of a somatoform pain disorder or a medical illness. However, in all patients, the somatoform pain disorder or the medical illness present was not regarded sufficient to explain the long-standing work disability.

The design of the study was a point prevalence investigation. Patients who were not present on the index day, patients with language difficulties and patients who gave incomplete answers in the SCID screen questionnaire were excluded. Thus, the final patient series comprised 126 patients. Sixty patients (32 females, 28 males) mean age 45.7 ± 8.7 years, fulfilled the criteria for a somatoform pain disorder according to the DSM-III-R (2). The remaining 66 patients (38 females, 28 males), mean age 46.6 ± 12.1 years, suffered from somatic disorders such as, cardiovascular disorders, hypertension, obesity or diabetes mellitus. The median duration of work disability was 365 days at admission; 32 patients (25%) were unemployed and 94 (75%) were employed.

All patients completed the Karolinska Scales of Personality (KSP) and the modified SCID screen questionnaire. The results

concerning the personality traits estimated by means of the KSP are reported elsewhere (18).

SCID screen questionnaire

In 1987, Spitzer et al. (32) introduced the Structured Clinical Interview for DSM-III-R (SCID). The SCID II, designed to evaluate DSM-III-R personality disorders (2), is accompanied by a self-report screening instrument that is used to screen populations, with the purpose of identifying individuals that could be expected to have any personality disorder and to form a basis for the clinical interview, indicating which questions could be expected to be of interest. The questions are very similar to the questions used in the SCID interview. The 124 questions cover criteria for the diagnosis of avoidant, dependent, obsessive–compulsive, passive–aggressive, self-defeating, paranoid, schizotypal, schizoid, histrionic, narcissistic, borderline and antisocial personality disorders.

In an earlier study (9) we compared the results of the SCID screen questionnaire (with adjusted cut-off), with the results obtained by means of SCID interviews. Overall, the Spearman rank correlation between number of criteria fulfilled by means of the SCID screen questionnaire and the SCID interviews was 0.84. The overall kappa coefficient was 0.78 for fulfilment of the criteria for specific personality disorders (9). Later on, the SCID screen questionnaire was used in a series of studies to determine whether the personality disorders are to be regarded as categorical or dimensional (7), to elucidate the factor structure of the personality disorders (10), to determine the relationship between personality traits and personality disorders (11), to elucidate the frequency of comorbidity between the personality disorders (12) and to determine the prevalence of personality disorders in healthy volunteers and psychiatric outpatients (3).

In the present study, the questionnaire was modified so that the criteria for self-defeating and antisocial personality disorders were excluded.

According to the classification in the DSM-III-R, personality disorders (2) are organized into three clusters based on characteristics common to each cluster. Cluster A, the "odd or eccentric" cluster, consists of paranoid, schizoid and schizotypal personality disorders. Cluster B, includes antisocial, borderline, histrionic and narcissistic personality disorders. Individuals with a cluster B diagnosis are often described as dramatic, impulsive and erratic. Cluster C, the "anxious cluster", includes avoidant, dependent, obsessive–compulsive and passive–aggressive personality disorders.

Major depression

The presence or absence of a major depression according to the DSM-III-R criteria (2) was determined by means of a specially designed self-rating scale covering all the relevant information needed for a diagnosis of major depression. The self-rating scale included a total of 14 questions to be responded to with yes or no. In a separate ongoing study, comprising 182 consecutive patients with long-standing work disability due to a chronic pain disorder, the self-rating depression scale was validated against a clinical diagnosis of DSM-III-R major depression independently made by a trained psychiatrist. The overall kappa coefficient of agreement was 0.84, the specificity 98% and the sensitivity 81%.

Statistical methods

Differences in frequency distributions have been tested by means of the chi-square test. Correlations between number of fulfilled criteria concerning major depression and personality disorders were tested by means of linear correlation coefficients. To elucidate the relative importance of specific personality

Table I. *Age, age at onset of work disability, sex and frequency of personality disorders and major depression in patients with somatoform pain disorders (n = 60) and medical illnesses (n = 66)*

	Somatoform pain disorder		Medical illnesses			p	Total series	
Age (yrs ± SD)	45.7 ± 8.7		46.6 ± 12.1		$t = 0.52$	n.s.	46.2 ± 10.6	
Age at onset	43.7 ± 9.1		45.3 ± 11.7		$t = 0.73$	n.s.	44.4 ± 10.5	
Male/female	28/32		28/38		$\chi^2 = 0.23$	n.s.	56/70	
	n	%	n	%	χ^2	p	n	%
Paranoid	4	6.7	14	21.2	5.43	<0.02	18	14.3
Schizoid	0	0	1	1.5	0.92	n.s.	1	0.8
Schizotypal	0	0	3	4.6	2.79	n.s.	3	2.4
Borderline	4	6.7	11	16.7	3.00	n.s.	15	11.9
Histrionic	2	3.3	2	3.0	0.01	n.s.	4	3.2
Narcissistic	1	1.7	5	7.6	2.42	n.s.	6	4.8
Avoidant	3	5.0	7	10.6	1.35	n.s.	10	7.9
Dependent	2	3.3	8	12.1	3.32	n.s.	10	7.9
Obsessive–compulsive	7	11.7	8	12.1	0.01	n.s.	15	11.9
Passive–aggressive	4	6.7	6	9.1	0.25	n.s.	10	7.9
Any cluster A	4	6.7	16	24.2	7.27	<0.01	20	15.9
Any cluster B	6	10.0	16	24.2	4.42	<0.05	22	17.5
Any cluster C	10	16.7	14	21.2	0.42	n.s.	24	19.0
Any PD	15	25.0	29	43.9	4.96	<0.05	44	34.9
Major depression	17	28.3	17	25.8	0.11	n.s.	34	27.0

Table II. *Comorbidity between specific personality disorders and major depression. All diagnoses according to DSM-III-R (APA, 1987). Patients with somatoform pain disorders or medical illnesses (n = 126)*

	Without major depression n = 92		With major depression n = 34		χ^2	p
	n	%	n	%		
Paranoid	9	9.8	9	26.5	5.65	<0.02
Schizoid	1	1.1	0	0	0.37	n.s.
Schizotypal	1	1.1	2	5.9	2.46	n.s.
Borderline	6	6.5	9	26.5	9.42	<0.01
Histrionic	1	1.1	3	8.8	4.83	<0.05
Narcissistic	4	4.4	2	5.9	0.13	n.s.
Avoidant	4	4.4	6	17.7	6.01	<0.02
Dependent	5	5.4	5	14.7	2.92	n.s.
Obsessive–compulsive	7	7.6	8	23.5	6.00	<0.02
Passive–aggressive	4	4.4	6	17.7	6.01	<0.02
Any cluster A	11	12.0	9	26.5	3.92	<0.05
Any cluster B	9	9.8	13	38.2	13.95	<0.001
Any cluster C	12	13.0	12	35.3	7.97	<0.01
Any PD	24	26.1	20	58.8	11.71	<0.001

Table III. *Linear correlations between number of criteria fulfilled for major depression (DSM-III-R) and number of criteria fulfilled for separate personality disorders according to DSM-III-R. Patients with somatoform pain disorders (n = 60) and medical illnesses (n = 66), n = 126*

No. of criteria for each personality disorder fulfilled	Somatoform pain No. criteria for major depression fulfilled	Medical illnesses No. criteria for major depression fulfilled	Total series No. criteria for major depression fulfilled
Cluster A			
Paranoid	0.39**	0.39**	0.39**
Schizotypal	0.22	0.32*	0.28**
Schizoid	0.33**	0.34**	0.34**
Cluster B			
Histrionic	0.31*	0.19	0.25**
Narcissistic	0.34**	0.34**	0.33**
Borderline	0.64**	0.59**	0.57**
Cluster C			
Avoidant	0.54**	0.44**	0.48**
Dependent	0.62**	0.42**	0.48**
Obsessive–compulsive	0.35**	0.47**	0.43**
Passive–aggressive	0.44**	0.32*	0.38**

$* p < 0.05, ** p < 0.01.$

disorders for the presence of major depression, a multiple stepwise regression was used. Two-tailed tests of significance were consistently used.

RESULTS

In patients with a somatoform pain disorder or medical illness treated at a rehabilitation clinic due to

Table IV. *Stepwise multiple regression with number of criteria for major depression (DSM-III-R) fulfilled as dependent variable and the number of criteria fulfilled for a specific personality disorder (except schizoid PD, n = 1) as the independent variables*

Variable	Coefficient	SE	Std. coeff.	F
a Intercept	1.49			
Dependent PD	0.57	0.19	0.36	8.74
Borderline PD	0.67	0.19	0.42	12.13
b Intercept	−0.12			
Obsessive PD	0.46	0.19	0.28	6.13
Borderline PD	0.59	0.15	0.43	14.36
c Intercept	1.11			
Avoidant PD	0.39	0.14	0.24	7.18
Borderline PD	0.56	0.12	0.42	21.94

a. Somatoform pain disorders $(n = 60)$. At final step R = 0.70, $R^2 = 0.49$, df 2/57, F = 27.15, $p < 0.01$.
b. Medical illnesses, $n = 66$. At final step R = 0.60, $R^2 = 0.36$, df 2/63, F = 17.98, $p < 0.01$.
c. Total series, N = 126. At final step R = 0.59, $R^2 = 0.34$, df 2/123, F = 32.23, $p < 0.01$.

long-standing work disability, 34.9% were found to have at least one personality disorder while 27% were found to fulfil the criteria for major depression (Table I).

Major depression was as common in patients with medical illnesses as in patients with somatoform pain disorders, 25.8% vs 28.3% ($x^2 = 0.11$, n.s.). However, personality disorders in cluster A (24.2% vs 6.7%, $x^2 = 7.27$, $p < 0.01$) and cluster B (24.2% vs 10.0%, $x^2 = 4.42$, $p < 0.05$) were more common in patients with medical illnesses. Personality disorders in cluster C were equally common in both patient groups (21.2% vs 16.7%, $x^2 = 0.42$, n.s.) (Table I).

In patients with major depression, 58.8% had a personality disorder compared with 26.1% of the patients without major depression ($x^2 = 11.71$, $p < 0.001$). Personality disorders in all three clusters were significantly more common in patients with major depression than in patients without major depression (Table II). Specific personality disorders were found in significantly higher frequencies in patients with major depression regarding paranoid, borderline, histrionic, avoidant, obsessive–compulsive and passive-aggressive personality disorders (Table II).

In patients with a somatoform pain disorder as well as in patients with medical illnesses and in the total series, significant correlations were found between the number of criteria fulfilled for major depression and the number of criteria fulfilled for specific personality disorders. The separate correlation coefficients ranged

from 0.19 to 0.64 and the highest correlations were found between major depression and borderline personality disorder (Table III).

In a multiple stepwise regression, it was demonstrated that borderline and avoidant personality disorders were the ones most frequently related to major depression in the total series (Table IV). However, a somewhat different pattern emerged in the two patient groups. In patients with somatoform pain disorders, dependent personality disorder was important together with borderline personality disorder. In the patients with medical illnesses, obsessive–compulsive personality disorder was important together with borderline personality disorder (Table IV).

DISCUSSION

The aim of the present study was to investigate the comorbidity between major depression and personality disorders in patients with somatoform disorders or medical illnesses, and to seek to elucidate the psychiatric factors resulting in treatment difficulties. The prevalence study took place at a rehabilitation centre, all patients included were referred to the clinic because of long-standing work disability. The median duration of work disability was one year at admission, consequently one must bear in mind that the patients included in the study were highly selective.

The prevalence of personality disorders in the present sample of patients, medically classified as somatoform pain disorders or medical illnesses, was found to be 34.9%. This is well above the prevalence in the general population, which has been reported to be between 10.3% and 13.5% (4, 21, 28, 33). However, the prevalence is considerably lower than the figures reported for psychiatric outpatients (1, 3, 14, 27). It is also of interest to note that a higher prevalence of personality disorders was found in patients with medical illnesses such as obesity, cardiovascular disorders, hypertension or diabetes than in patients with somatoform pain disorders according to DSM-III-R.

The prevalence of major depressive disorders was 27%, which is about what could be expected from the literature. In patients with somatoform pain disorders 5% to 49% (mean 24%) have been reported to have a major depression (16, 25,), and major depressive disorders are also usually found in about a quarter of the patients with physical disorders (6, 15, 17). Obviously, depression may increase the risk of chronic pain and in the same way chronic pain may increase the risk of depression (20).

As reported many times before in patients with primary affective disorders, there is a high frequency of comorbidity between major depression and personality disorders (1, 34), although the present sample comprises patients with somatoform pain disorders or medical illnesses with a concomitant major depressive episode. Thus it seems likely that major depression and personality disorders are related to each other also in patients where the primary diagnosis is not major depression.

From the present data it is impossible to conclude whether the personality disorders present are vulnerability factors leading to a higher frequency of major depression or whether both personality disorders and major depression are caused by a common vulnerability factor, making the individual prone to the development of both disorders. There are some results in favour of the latter hypothesis. Siever & Davis (31) defined critical psychobiological substrates for personality dysfunction as resting on key dimensions including impulsivity, affective instability, schizoidia and anxiety/inhibition. Coccaro and co-workers (5) have demonstrated diminished serotonergic activity related to irritability, impulsive and aggressive behaviour in personality disorder patients, and serotonergic dysfunction is a well-known denominator of major depression (36, 37). A common serotonergic dysfunction in patients with major depression, avoidant, dependent, obsessive–compulsive and borderline personality disorders would explain why selective serotonin reuptake inhibitors (SSRIs) are effective as antidepressants as well as in social phobia, obsessive compulsive disorders and impulse control disturbances (13, 23).

The results of the present study clearly demonstrate the need for a structured psychiatric evaluation at an early stage in patients with work disability and different forms of somatic problems. It is also important to emphasize that the treatment programme for these patients should rest on a broad multidisciplinary competence with both somatic and psychiatric intervention strategies.

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