

Comorbid Bipolar Disorder Among Patients with Conversion Disorder

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ÖZET:

Konversiyon bozukluđu hastalarında bipolar bozukluk komorbiditesi

Giriř: Konversiyon bozukluđu hastalarında psikiyatrik ekhastalık sıklığı %31-%71 arasında bildirilmiştir. Bu çalışmada konversiyon bozukluđu hastalarında başta iki uçlu bozukluk olmak üzere psikiyatrik ekhastalıkların değerlendirilmesi planlanmıştır.

Yöntem: Nisan 2006 ile Kasım 2006 arasında Şişli Etfal Eğitim ve Arařtırma Hastanesi acil psikiyatri bölümüne başvuran ve konversiyon bozukluđu tanısı konulan 100 ardışık hasta çalışmaya dahil edildi. Hastalara SCID-I uygulandı ve sosyodemografik form dolduruldu.

Bulgular: Hastaların %28'inde iki uçlu bozukluk saptandı. Başka türlü sınıflandırılmamış dissosiyatif bozukluk, panik bozukluk ve yeme bozukluđu ekhastalığı iki uçlu bozukluđu olan konversiyon hastalarında daha yüksek bulundu. Tek uçlu hastalara göre iki uçlu bozukluđu olan hastalarda anlamlı düzeyde düşük işlevselliğin genel değerlendirilmesi skorları saptandı (p=0,03).

Sonuç: Konversiyon bozukluđu hastalarında psikiyatrik öykü ve ekhastalığı belirlemek önemlidir. İki uçlu bozukluk ekhastalığı varsa klinisyenin konversiyon bozukluđu hastalarında anti-depresan tedaviden kaçınmayı ve duygudurum dengeleyici eklemeyi gözönünde bulundurması gerekir. Diğer konversiyon bozukluđu çalışmalarından farklı olarak bu çalışmada yeni tanı konulmuş konversiyon bozukluđu hastalarında iki uçlu bozukluk ve diğer eksen I tanılarının ekhastalığı değerlendirilmiştir.

Anahtar sözcükler: konversiyon bozukluđu, iki uçlu bozukluk, ekhastalık

Journal of Mood Disorders 2013;3(2):58-63

ABSTRACT:

Comorbid bipolar disorder among patients with conversion disorder

Background: Psychiatric comorbidity rate among the patients with conversion disorder was reported between 31-71%. The present study was planned to assess the overall psychiatric comorbidity, particularly bipolar disorder comorbidity in patients with conversion disorder.

Methods: A total of 100 consecutive patients admitted to the Psychiatric Emergency Unit of Sisli Etfal Teaching and Research Hospital in Istanbul, Turkey from April 2006 to November 2006 and diagnosed with conversion disorder were included in this study. SCID-I and sociodemographical form were administered to the patients.

Results: Bipolar disorder was found in 28% of the patients. The rate of dissociative disorder not otherwise specified (NOS), panic disorder, eating disorder comorbidity were higher in conversion disorder patients with bipolar disorder. In comparison with unipolar patients, bipolar patients had significantly lower Global Assessment of Functioning scores (p=0.03).

Conclusion: It is important to determine comorbidity and previous psychiatric history in patients with conversion disorder. If there is comorbid bipolar disorder, clinicians should consider mood stabilizing agents, and avoid antidepressants in the treatment of conversion disorder. Apart from other studies on conversion disorder, this study assessed comorbid bipolar disorder and other axis I diagnoses in patients with conversion disorder for the first time.

Key words: conversion disorder, bipolar disorder, comorbidity

Journal of Mood Disorders 2013;3(2):58-63

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Kabul tarihi / Date of acceptance: 16 Ocak 2013 / January 16, 2013

Bađıntı beyanı:

O.K.K., B.Ö., S.G.T., B.B., Y.C.C., A.A., U.U., O.T., M.Ç., B.Y., V.K., E.T.: Yazarlar bu makale ile ilgili olarak herhangi bir çıkar çatışması bildirmemiştir.

Declaration of interest:

O.K.K., B.Ö., S.G.T., B.B., Y.C.C., A.A., U.U., O.T., M.Ç., B.Y., V.K., E.T.: The authors reported no conflict of interest related to this article.

INTRODUCTION

The word "conversion" is used to refer to the disorders that involve the exhibition of motor abnormality in the absence of organic etiology. It is the result of intractable stress that may lead to a physical symptom that looks like a neurological disease. The problem in conversion disorder is that the will fails to produce normal action. Conversion disorder is defined in the Diagnostic and

Statistical Manual of Mental Disorders, fourth edition (1) as the disturbance of bodily functioning that does not conform to current concepts of the anatomy and the physiology of the central or peripheral nervous system. Symptoms which mimic neurological diseases such as paralysis, seizures, and sensory disturbances typically occur in a setting of stress and produces considerable dysfunction.

In a general hospital setting 5 to 16% of all psychiatric

patients have conversion symptoms. In Turkey, among outpatients who were admitted to a primary health care center, the lifetime prevalence of conversion symptoms was 48.2% (2). One of the most common diagnoses was found to be conversion disorder (19.2%) among Turkish patients admitted to the emergency unit (3).

Psychiatric comorbidity rate among the patients with conversion disorder was reported as between 31-71% (4-7). Among the axis I psychiatric conditions, depressive disorders, anxiety disorders, somatization disorders, dissociative disorders are the most common comorbid disorders (8-10). Uğuz et al found major depressive disorder (24%), dysthymia (4%), obsessive-compulsive disorder (OCD) (5.5%), post-traumatic stress disorder (PTSD) (2.7%), panic disorder (2.7%), and social phobia (1.2%) as accompanying disorders in 72 patients with conversion disorder (11). Şar et al found that 90% of the patients with conversion disorder had at least one axis I diagnosis (2).

However, bipolar disorder comorbidity had not been indicated in previous studies. Therefore, present study was planned to assess overall psychiatric comorbidity particularly bipolar disorder comorbidity and to determine the sociodemographic characteristics of patients with conversion disorder.

MATERIAL AND METHODS

Subjects

All participants gave oral informed consent prior to inclusion into the study. A total of 100 consecutive patients admitted to the Psychiatric Emergency Unit of Sisli Etfal Teaching and Research Hospital in Istanbul, Turkey from April 2006 to November 2006 and diagnosed with conversion disorder according to DSM-IV were included in the study. In order to exclude organic causes all patients underwent neurologic and physical evaluation. Patients with mental retardation and dementia were excluded. Other exclusion criteria were the presence of neurologic or physical disorder that may interfere with the psychiatric symptoms of the patient, and the presence of psychiatric disorders due to general medical condition. This study was approved by the local ethics committee.

MATERIALS

Psychiatric disorders were assessed by using Turkish version of structured clinical interview for DSM IV (SCID I) (12). SCID I was administered by senior residents at emergency psychiatric unit after patients conversion symptoms remitted. A sociodemographic form on clinical features, previous psychiatric history, family history, and general medical condition, was designed for this study. The Global Assessment of Functioning (GAF) score, which is included in the DSM-IV section on multi-axial assessments, was used to assess the psychological, social, and occupational functioning of the patients.

Statistical Analysis

The statistical analysis was performed by using SPSS version 11.5. Chi-square tests were used in two group comparisons. The level of statistical significance was considered as $p < 0.05$.

RESULTS

Of 100 patients, 89 were female (mean age 29.7 ± 10.0 years) and 11 were male (mean age 30.6 ± 10.4 years).

Table 1: Sociodemographic characteristics of study patients

	Number of patients (n=100)
Sex	
Male	11
Female	89
Marital status	
Single	24
Married	71
Widowed	1
Divorced	4
Occupation	
Unemployed	65
Employed	35
Education	
Illiterate	5
Primary school	63
Secondary school	10
High school	17
University	5
Previous psychiatric history	55
Previous psychiatric treatment	18
Family history	10
Alcohol/substance use	6

Table 2: Sociodemographic characteristics of bipolar and unipolar group

	Bipolar group (n= 28)	Unipolar group (n=49)	p value
Sex			
Male	4	5	0.71
Female	24	44	
Marital Status			
Single	9	10	0.28
Married	18	37	0.31
Widowed	-	1	-
Divorced	1	2	1.0
Education			
Illiterate	1	3	1.0
Primary school	14	34	0.22
Secondary school	5	2	0.093
High school	4	10	0.55
University	4	1	0.06
Occupation			
Unemployed	16	30	0.81
Employed	12	19	
Positive previous psychiatric history	23	27	0.025
Positive family history	1	8	0.14
Alcohol/substance abuse	2	4	1.0

There was not a significance difference between age and sexes of the patients. The majority of the patients were graduated from primary school, married and unemployed. Sociodemographic characteristics of patients are shown in Table 1. There were no significant differences in terms of sex, education, marital status, employment, family history, and age between the bipolar disorder group and the unipolar group. Positive previous psychiatric history ($p=0.025$) was significantly different in conversion patients with comorbid bipolar disorder than the patients with unipolar depression (Table 2).

Eighty-nine patients had comorbid axis I psychiatric disorder (Table 3). The most common diagnoses were mood disorders, panic disorder, generalized anxiety disorder, and obsessive-compulsive disorder. Bipolar disorder was found in 28% patients with conversion disorder admitted to the emergency psychiatric unit. The percentage of patients with panic disorder ($p=0.026$) was significantly higher among patients with comorbid bipolar disorder than among patients with other comorbid axis I psychiatric disorder (Table 4). The rate of patients with dissociative disorder NOS, and the percentage of patients with eating disorder were higher among patients with comorbid bipolar disorder but the significance cannot be

Table 3: Psychiatric comorbidity in study patients

	Number of patients (n=100)
Mood disorders	
Unipolar depression (present)	49
Bipolar II depression (lifetime)	14
Bipolar I mixed episode (present)	13
Bipolar I depressive episode	1
Anxiety disorders (present)	
Panic disorder	24
Generalized anxiety disorder	16
Obsessive-compulsive disorder	16
Social anxiety disorder	3
Post-traumatic stress disorder	3
Somatoform disorders	5
Dissociative disorders NOS	7
Eating disorders	4
Adjustment disorder	4
Bereavement	5

calculated as there are less than 5 cases per cell count.

The majority of patients reported problems with primary support group and social environment. The psychosocial stress factors and the level of functioning are presented in Table 5. In comparison with unipolar patients, bipolar patients had significantly lower GAF scores ($p=0.03$). Psychosocial stress factors were similar in both groups.

Table 4: Comorbidity in bipolar and non-bipolar group

	Bipolar group (n=28)	Non-bipolar group (n=72)	χ^2	p value
Panic disorder	11(39.3%)	13 (18.1%)	4.98	0.026
Agoraphobia	8 (28.6%)	9 (12.5%)	3.69	0.055
Obsessive-compulsive disorder	7 (25%)	9 (12.5%)	2.34	0.13
Post-traumatic stres disorder	1 (3.6%)	2 (2.8%)	0.04	0.84
Generalized anxiety disorder	5 (17.9%)	11 (15.3%)	0.1	0.75
Social anxiety disorder	1 (3.6%)	2 (2.8%)	0.44	0.84
Dissociative disorder NOS	6 (21.4%)	1 (1.4%)	12.4	-
Eating disorder	3 (10.7%)	1 (1.4%)	4.57	-
Adjustment disorder	-	4 (5.6%)	1.6	0.20
Somatization disorder	-	5 (6.9%)	2.05	0.15
Bereavement	-	5 (6.9%)	2.05	0.15

Table 5: Psychosocial stres factors and level of functioning in bipolar and unipolar group

	Bipolar group (n= 28)	Unipolar group (n=49)	p value
Psychosocial stress factors			
Problems with primary group	22 (78.6%)	42 (85.7%)	0.53
Problems related to social environment	5 (17.9%)	4 (8.2%)	0.27
Housing and economic problems	1 (3.6%)	2 (4.1%)	1.00
Legal problems	-	1	
Level of functioning (GAF scores)			
80-71	2 (7.1%)	-	
70-61	2 (7.1%)	22 (45%)	0.001
60-51	15 (53.6%)	22 (45%)	0.49
50-41	9 (32.1%)	5 (10.2%)	0.03

DISCUSSION

In this study, we defined the overall psychiatric comorbidity, particularly bipolar disorder comorbidity, among patients with conversion disorder in the emergency unit. We found that 89% of patients with conversion disorder had another first axis comorbidity, particularly mood disorders and anxiety disorders. Bipolar disorder was found in 28% of patients with conversion disorder. In this study, we wanted to emphasize the intricate relationship between conversion and bipolar disorder, since both have common biological and psychological etiologies.

Both the orbitofrontal cortex and the anterior cingulate cortex mediate emotional and central executive functions and are activated when subjects suppress responses (13). The most primitive structures (brainstem and hypothalamic regions) regulate the autonomic, endocrine and motor systems that are fundamental to the expressive and instrumental functions of emotion (14).

Limbic system which includes hypothalamus, septum, amygdala, hippocampus, and striatum provides greater sensitivity of emotional responses (15). Vuilleumier et al. suggest that conversion deficits are maintained by a functional disorder of striato-thalamo-cortical circuits controlling sensorimotor function and voluntary behaviour (16). Previous data suggest that modulation of sensory and motor planning is impaired by disruption of the anterior cingulate cortex, orbitofrontal cortex, and the limbic regions during conversion reactions (17). Furthermore, reduced activation of the frontal and subcortical areas is observed during conversion (18). Similarly, compelling data suggests abnormal functioning of frontal-subcortical circuits in bipolar disorder (19). Frontal lobe dysfunction has been implicated as one of the pathophysiological bases of bipolar disorder. Accumulating evidence from magnetic resonance studies show abnormal structure and function of limbic, paralimbic, and prefrontal regions in bipolar disorder. There is evidence for volume reductions in sub-regions of the

prefrontal cortex in bipolar disorder (20).

Previous studies show the female predominance in conversion disorder (21). It has been emphasized that women can not express their feelings adequately and somatization of the internal conflicts is more common and consequently conversion disorder is more frequent in females (22). The female-to-male ratio is between 2:1 and 5:1. Male patients are likely to develop conversion disorders in occupational settings or military service. The high female-to-male ratio in this disorder reflects the cultural pressures on women and the social "permission" given to women to be physically weak or sick (23). The high percentage of females in the present study confirms this knowledge. The study population was generally composed of young people (mean age of the patients was 29.8 ± 10 years), a finding which is consistent with the literature. It has been reported that conversion disorder may occur at any age but it is more common in young adults and adolescents (24). No significant age difference was found between the sexes as some previous studies have indicated (21). Most studies show that conversion disorder is often seen in poorly educated, and unemployed population (25). It has been reported that conversion disorder is more frequent in the population of lower socioeconomic levels (25). In our study, the subjects were uneducated or primary school graduates, unemployed, and married. For the patients with low education, it may be more difficult to cope with precipitating life events, and sickness might become the most feasible way of gaining relief from emotional stress (21). In contrast to the population in Europe and North America, alcohol or drug abuse is not very common in Turkish population (2,25,26) found that 10% of the patients diagnosed with conversion disorder in the emergency unit had a history of alcohol or drug abuse (26). In the present study 6% patients had alcohol abuse. This is important in terms of reflecting the cultural differences.

In our study, precipitating factors for conversion were the problems with the primary support group, and social environment. These life events were mostly perceived as difficult to adjust to. Moreover, patients had difficulties in global functioning. Thus it is important to identify the life events that could be associated with the symptoms. We found high rate of positive previous psychiatric history (55%) in our study population. Similarly Binzer et al. (21) defined positive previous psychiatric history in 47% of

patients with conversion disorder. Available data showed that the patient or his/her relatives perceive the disease as physical disease rather than a psychological one (25). We showed that although 55 patients had positive previous psychiatric history, only 13 of them had received psychiatric treatment.

In the present study the comorbidity rate was found to be 89%. The most common comorbid diagnoses include mood disorders, panic disorder, generalized anxiety disorder, PTSD, dissociative disorders, social or specific phobias, and OCD (13). Kuloğlu et al (25) found that the most common psychiatric disorder was depressive disorders (35.9%), followed by generalized anxiety disorder (18%), dissociative disorders (9.6%), PTSD (8.6%), OCD (4%). In our study, 49% of patients had current major depressive episode, 13% of patients had bipolar disorder mixed episode, and 14% of patients had bipolar II depression. The overall prevalence of bipolar disorder was found to be 28% in patients with conversion disorder who were admitted to the emergency psychiatric unit. Previous studies, except two reports (27,28), did not find bipolar affective disorder comorbidity rate in patients with conversion. Bowman et. al (28) showed 2% bipolar disorder comorbidity rate in 45 subjects with pseudoseizures. In our study, 24% of patients had panic disorder, 16% of patients had generalized anxiety disorder, and 16% had OCD, 3% had PTSD, and 7% had dissociative disorder NOS.

In addition to the bipolar disorder comorbidity, we reported significant differences in terms of global functioning, and previous psychiatric history between the unipolar depression group and bipolar disorder group. Another noteworthy finding in our study was that the percentage of patients with dissociative disorder NOS, panic disorder, eating disorder were significantly higher in conversion patients with comorbid bipolar disorder than in patients with other axis I diagnoses. This finding emphasizes the importance of questioning underlying bipolar disorder in conversion patients with comorbid dissociative disorder, panic disorder, or eating disorders.

The main limitation of this study is that the findings are restricted to the emergency admissions.

In conclusion, in this study we assessed comorbid bipolar disorder and other axis I diagnoses in patients with conversion disorder. Bipolar disorder is common among patients with conversion, thus it is important to

determine comorbidity and previous psychiatric history in patients with conversion disorder. If there is comorbid bipolar disorder, clinicians should consider mood stabilizing agents in the treatment of conversion disorder. There may be underlying bipolar disorder in patients with conversion disorder who have comorbid dissociative

disorder, panic disorder, or eating disorder.

Acknowledgement

We are deeply grateful to Joseph Zohar M.D for his comments.

References:

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th edition, American Psychiatric Association, Washington D.C, 2004.
- Sar V, Akyuz G, Kundakci T, Kiziltan E, Dogan O. Childhood trauma, dissociation, and psychiatric comorbidity in patients with conversion disorder. *Am J Psychiatry*. 2004;161:2271-6.
- Guz H, Doganay Z, Guven H, Ozcan A. A retrospective evaluation of the psychiatric consultations which were requested by the emergency department. *Turkish Journal of Emergency Medicine*. 2003;3.
- Tomasson K, Kent D, Coryell W. Somatization and conversion disorders: comorbidity and demographics at presentation. *Acta Psychiatr Scand*. 1991;84:288-93.
- Lempert T, Schmidt D. Natural history and outcome of psychogenic seizures: a clinical in 50 patients. *J Neurology*. 1990;237:35-8.
- Walczack TS, Papacostas S, Williams DT, Scheurer MI, Lebowitz N, Notarfrancesco A. Outcome after diagnosis of psychogenic non-epileptic seizures. *Epilepsia*. 1995;36:1131-7.
- Arnold LM, Privitera MD. Psychopathology and trauma in epileptic and psychogenic seizure patients. *Psychosomatics*. 1996;37:438-43.
- Roy A. Pseudoseizures: a psychiatric perspective. *J Neuropsychiatr Clin Neurosci*. 1989;1:69-71.
- Dunner D. Current psychiatric therapy. Philadelphia: WB Saunders, 1993;314-20.
- Lesser RP. Psychogenic seizures. *Neurology*. 1996;46:1499-507.
- Uguz S, Toros F. Sociodemographic and clinical characteristics of patients with conversion disorder. *Turk J Psychiatry*. 2003;14:51-8.
- Corapcioglu A, Aydemir O, Yildiz M, Esen A, Koroglu E. DSM-IV Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), Clinical Version (Turkish Version). Hekimler Yayın Birliği, 1999, Ankara.
- Stonnington CM, Barry JJ, Fisher RS. Conversion disorder. *Am J Psychiatry*. 2006;163:1510-7.
- Green MJ, Cahill CM, Malhi GS. The cognitive and neurophysiological basis of emotion dysregulation in bipolar disorder. *J Affect Disord*. 2007;103:29-42.
- McLean PD. The triune brain in evolution: Role in paleocerebral functions. Plenum Pres, New York, 1990.
- Vuilleumier P, Chicherio C, Assal F, Schwartz S, Slosman D, Landis T. Functional neuroanatomical correlates of hysterical sensorimotor loss. *Brain*. 2001;124:1077-90.
- Black DN, Seritan AL, Taber KH, Hurley RA. Conversion hysteria: lessons from functional imaging: *J Neuropsychiatry Clin Neurosci*. 2004;6:245-51.
- Spence SA, Crimlisk HL, Cope H, Ron MA, Grasby PM. Discrete neurophysiological correlates in prefrontal cortex during hysterical and feigned disorder of movement. *Lancet*. 2000;355:1243-4.
- Marchand WR, Lee JN, Thatcher J, Thatcher GW, Jensen C, Starr J. A preliminary longitudinal fMRI study of frontal-subcortical circuits in bipolar disorder using a paced motor activation paradigm. *J Affect Disord*. 2007;103:237-41.
- Strakowski SM, DelBello MP, Adler C. The functional neuroanatomy of bipolar disorder: a review of neuroimaging findings. *Molecular Psychiatry*. 2005;10:105-16.
- Binzer M, Anderson PM, Kullgren G. Clinical characteristics of patients with motor disability due to conversion disorder: a prospective control group study. *J Neurol Neurosurg Psychiatr*. 1997;63:83-8.
- Hafeiz HB. Clinical aspects of hysteria. *Acta Psychiatr Scand* 1985;73:676-80.
- Eisendrath, Stuart J. "Psychiatric Disorders." In *Current Medical Diagnosis and Treatment*, edited by Stephen McPhee, et al., 37th ed. Stamford: Appleton & Lange, 1997.
- Goodyer IM. Hysterical conversions reactions in childhood. *J Child Psychol Psychiatry*. 1981;22:179-88.
- Kuloglu M, Atmaca M, Tezcan E, Gecici O, Bulut S. Sociodemographic and clinical characteristics of patients with conversion disorder in Eastern Turkey. *Soc Psychiatr Psychiatr Epidemiol*. 2003;38:88-93.
- Dula DJ, DeNaples L. Emergency department presentation of patients with conversion disorder. *Academic Emergency Medicine*. 1995;2:120-3.
- Mattoo SK, Gupta N, Lobana A, Bedi B. Mass family hysteria: A report from India. *Psychiatry Clin Neurosci*. 2000;56:643.
- Bowman ES, Markand ON. Psychodynamics and psychiatric diagnosis of pseudoseizure subjects. *Am J Psychiatry*. 2003;153:57-63.