

Comparison of Psychiatric Features Between Conversion Disorder and Female Epilepsy Patients with Non-Intractable Seizure

Konversiyon Bozukluğu Olan Kadın Hastaların Dirençli Olmayan Nöbetli Epilepsi Hastaları İle Psikiyatrik Özellikler Açısından Karşılaştırılması

Evrım ÖZKORUMAK,¹ Sibel GAZİOĞLU,² Ahmet TIRYAKI,¹ Sibel K. VELİOĞLU,² Pınar KIZILAY¹

¹Department of Psychiatry, Karadeniz Technical University Faculty of Medicine, Trabzon;

²Department of Neurology, Karadeniz Technical University Faculty of Medicine, Trabzon

Summary

Objectives: Mental state of the patients with epilepsy has been evaluated in various studies. Psychiatric comorbidities are known to be relatively frequent in patients with epilepsy. The aim of this study was to compare the psychopathological features of female patients with conversion disorder (CD) and epilepsy with nonintractable seizures with healthy controls.

Methods: The sample recruited from psychiatry and neurology outpatient clinics in a tertiary care center. The study population consisted of 32 female patients with CD, 30 female patients with epilepsy and 31 female healthy controls with similar age and education levels. The psychopathological state was assessed by clinical measures including Brief Symptom Inventory, Somatosensory Amplification Scale and a sociodemographic data form.

Results: Sociodemographic features did not differ between the groups. The subscales of Brief Symptom Inventory were significantly higher in patients with conversion disorder than epilepsy, and in patients with epilepsy than the healthy control. But Somatosensory Amplification Scale differ significantly only between patients with conversion disorder and healthy control.

Conclusion: The psychopathological features of three groups differed in most of the items. More severe psychopathological symptoms in epileptic patients than the healthy control but milder than Conversion Disorder may imply that mental state of patients with epilepsy is determined by different factors other than the clinical factors related with seizure.

Key words: Conversion disorder; epilepsy; psychopathology.

Özet

Amaç: Epilepsi hastalarının ruhsal durumu birçok çalışmada değerlendirilmiştir. Epilepsi hastalarında psikiyatrik eştanılar sıktır. Bu çalışmanın amacı konversiyon bozukluğu olan kadın hastaların, epilepsi hastalarının sağlıklı kontrollerle psikopatolojik özellikler açısından karşılaştırılmasıdır.

Gereç ve Yöntem: Örneklem üçüncü basamak bir merkezde bulunana psikiyatri ve nöroloji kliniklerine ayaktan başvuran hastalar arasından oluşturulmuştur. Çalışma evrenini benzer yaş ve eğitimde olan 32 Konversiyon Bozukluğu olan 32 kadın, epilepsisi olan 30 kadın ve sağlıklı 31 oluşturmaktadır. Psikopatolojik durum kısa semptom envanteri, somatoduyusal abartma ölçeği ve sosyodemografik bilgi formu ile değerlendirilmiştir.

Bulgular: Sosyodemografik özellikler üç grup arasında farklılık göstermemiştir. Kısa semptom envanterinin alt ölçekleri konversiyon bozukluğu olan hastalarda epilepsi hastalarından yüksek ve epilepsi hastalarında sağlıklı kontrollerden yüksek bulunmuştur. Fakat somatoduyusal abartma ölçeği yalnız konversiyon bozukluğu olan hastalarla ile sağlıklı kontroller arasında fark göstermiştir.

Sonuç: Üç grubun psikopatolojik özellikleri birçok maddede farklılıklar göstermektedir. Bu epilepsi hastalarının ruhsal durumunun nöbetle ilişkili klinik özelliklerden farklı etmenlerle belirlendiğini gösterir.

Anahtar sözcükler: Konversiyon bozukluğu; epilepsi; psikopatoloji.

Submitted (Geliş): 21.01.2014

Accepted (Kabul) : 24.06.2014

Correspondence (İletişim) : Evrım ÖZKORUMAK, M.D.

e-mail (e-posta) : evrimozkorumak@yahoo.com



Introduction

Conversion Disorder (CD); is characterized by pseudoneurological symptoms involving motor or sensory symptoms or loss of consciousness.^[1] It is accepted as a process whereby intrapsychic distress is converted into physical neurological symptoms.^[2] It is defined in DSM-IV as symptoms and deficits that affect voluntary motor or sensory functions that are not intentionally produced. It is judged to be caused by psychological factors because it is preceded by stressors.^[3] It has been reported that lower than 20% of patients with epilepsy have pseudoseizures which are classified as CD in DSM-IV.^[4-6] Psychiatric comorbidities are relatively frequent in patients with epilepsy. Available data strongly support an increased risk for psychiatric comorbidity in patients with epilepsy, indicating that it occurs in 20–40% of this population and even more frequently in patients with refractory seizures.^[7] Depressive and anxiety disorders account for the majority of the psychiatric disorders.^[8] The lifetime prevalence rates of major depressive disorders (MDDs) in 17.4% (10.0–24.9) of patients with epilepsy compared to 10.7% (10.2–11.2) of controls in Canadian population-based study (8). Also comorbid depressive and anxiety disorders interfere with the treatment of the seizure disorder by worsening the tolerance to antiepileptic treatments.^[9] Psychiatric comorbidity impact on quality of life of epilepsy, so recognition, then appropriate diagnosis and treatment is important for the well-being of patients with epilepsy.

Recognition of the past and current comorbid psychiatric disorders needs to be incorporated into the evaluation of patients with epilepsy. The current formal criteria commit to a model that assumes CD is distinguishable from (organic) neurological disorders. However, there are significant problems with these assumptions both in theory and in practice. For the aim of understanding the factors that may help the differential diagnosis in clinical practice between CD and epilepsy, then compared psychopathological features of patients with CD, epilepsy and healthy controls and hypothesized whether some psychological factors can be a distinguishing between the three of them.

Materials and Methods

Study center and case ascertainment

Patients with CD and epilepsy were recruited from the outpatient clinics of Psychiatry and Neurology Departments respectively at Faculty of Medicine of Karadeniz Technical

University. Female patients aged between 18-45 years old with a diagnosis of CD with seizures or convulsions subtype according to DSM-IV were included. Female epileptic patients being followed up for at least 3 years with idiopathic generalized epilepsy diagnosed according to ILAE 1981 classification were also included in this study. Control group were selected among female relatives and neighbors of hospital staffs with similar age and educational level with the patient group. The control group was composed of 31 healthy females without any history of neurological or psychiatric disorders. The sample of the study were composed of only females for the aim of recruiting information specific to female gender. Informed consent of the participants was obtained after full explanations about study and the procedures. Cross sectional data was collected in this study. Approval for the study was obtained from the Karadeniz Technical University Local Ethics Committee of Medical School. In this study, Helsinki protocols were followed and all participants gave written informed consent. Furthermore, any cognitive disturbance that impairs understanding informed consent like dementia, delirium or any history of head trauma and epileptic patients who also have pseudoseizures were considered as exclusion criterias.

Instruments and procedure

Socio-demographic and clinical information form: In consideration of the aims of this study, the researchers developed this form, which collected data on age, marital status, level of education, occupational status, date of given diagnosis, duration of illness, present medications of the patients.

Brief Symptom Inventory (BSI): Brief Symptom Inventory is a 53-item, self-report symptom inventory which is used extensively to assess global psychological distress by the individual's score on a global severity index. It is designed to reflect the psychological systems of psychiatric, medical, and normal individuals. It is a brief form of the SCL-90 and is designed to provide a multidimensional symptom measurement in about 10 minutes. The global severity index for each subject is obtained by averaging the 53 symptom ratings. The measure has nine specific subscales (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, hostility, paranoid ideation, psychoticism). The Brief Symptom Inventory was adapted to Turkish by Hisli-Şahin and Durak.^[10] These symptom subscales do not correspond to psychiatric diagnosis.

Somatosensory Amplification Scale (SSAS): This scale ques-

tions whether the individual amplifies normal somatic sensations. It is a self assessing, Likert-type scale which is rated between 1-5 and includes 10 items. Total point is evaluated as the point of amplification. It was developed by Barsky and colleagues (1988) in order to explain somatization.^[11] Turkish study on validity and reliability was performed by Sayar and colleagues.^[12]

Statistical analysis

Statistical analysis was performed using SPSS for Windows version 15. The descriptive statistics were calculated as mean, standard deviation and percentages. After evaluation of the assumption of the normal distribution Kruskal-Wallis analysis was used for comparison of nonparametric variables among the groups and two-by-two comparisons were made using the Mann-Whitney U test. ANOVA was used for the comparison of parametric variables. Statistical significance was set at a p value of 0.05.

Results

Patients with CD consisted of 32 females (aged 16-68; mean age 27.7 ± 11.5), patients with epilepsy consisted of 30 females (aged 17-60; mean age 28.2 ± 10.4) and the control group of 31 females (aged 15-70; mean age 28.4 ± 12.3). There were no significant differences in age, education duration, marital status or occupation between the groups ($p=0.97$, $p=0.43$, $p=0.72$ and $p=0.46$, respectively). Demographic features of the study population are shown in **Table 1**. All patients in the epilepsy group had idiopathic generalized epilepsy and were taking antiepileptic drugs. Twelve patients (40%) were seizure free, 11 patients (36.7%) had seizures once a year and 7 patients (23.3%) had once

a month. Fourteen out of 32 patients (43.8%) with CD had also the diagnosis of major depression.

There were significant differences between the three patient groups in all scores. CD patients had the highest scores and control patients had the lowest scores in all parameters. Two-by-two comparisons showed that somatization (SOM), obsessive compulsive traits (OC), interpersonal sensitivity (IS), depression (DEP), anxiety (ANX), hostility (HOS), phobic anxiety (PHB), paranoid ideation (PAR), psychoticism (PSY), additional items (AI), severity of illness index (SII), global severity index (GSI) and symptom distress index (SDI) scores were significantly higher in CD group than the epilepsy and the control group. A similarly significant difference also, existed between the epilepsy and the control group. Subgroups of epilepsy patients with and without ongoing seizures were compared in means of BSI subscores. The SOM and ANX subscores were significantly higher in patients with ongoing seizures ($p=0.002$ for each subscore). Although somatosensory amplification (SSAS) scores were higher in CD group than the epilepsy and control groups and in epilepsy group than the control group, this difference was only significant between the CD and control group ($p=0.004$). Mean values and standard deviations of all scores and comparisons between the groups are shown in **Table 2**.

Discussion

Several psychiatric disorders have been shown to have increased prevalence in patients with epilepsy compared to the general population. Gaitatzis et al reported that mood disorders are the most common one (24–74%), particularly depression (30%), followed by anxiety disorders (10–25%),

Table 1. Demographic features of the study population

	CD (n=32)			Epilepsy (n=30)			Control (n=31)			p
	n	%	Mean±SD	n	%	Mean±SD	n	%	Mean±SD	
Mean age, years			27.7±11.5			28.2±10.4			28.4±12.3	0.97
Education,(years)			10.7±4			9.4±3.9			10.5±4.3	0.43
Marital status										0.72
Married	14	56.3		16	53.3		14	45.2		
Single	18	43.8		14	46.7		17	54.8		
Occupation										0.46
Employed	8	25		4	13.3		9	29		
Unemployed	14	43.8		18	60		12	38.7		
Student	10	31.3		8	26.7		10	32.3		

p value; from ANOVA for age and education duration and from chi-square test for marital status and occupation, significant if <0.05 .

Table 2. Mean values and standard deviations of all scores and comparisons between the groups

	CD (n=32)	Epilepsy (n=30)	Control (n=31)	*p
	Mean±SD	Mean±SD	Mean±SD	
SOM	16.9±7.3	8.3±6.4	4±4.1	<0.001 ^a
Obsessive compulsive	13.7±6.8	7.7±4.3	5±3.8	<0.001 ^a
Interpersonal sensitivity	8.5±4.6	6±3.6	2.1±2.1	<0.001 ^a
Depression	13.5±6.9	6.3±5.6	3.2±3.2	<0.001 ^a
Anxiety	12.9±6	6.7±4.1	3.3±3.4	<0.001 ^a
Hostility	10.2±5.3	6.4±4.5	2.5±2.7	<0.001 ^a
Phobic anxiety	6.9±4.5	4±3.8	1.1±1.7	<0.001 ^a
Paranoid ideation	10±5.2	5.6±3.7	3.5±3.1	<0.001 ^a
Psychoticism	8.5±5.4	4.1±3.7	1.8±2.1	<0.001 ^a
Additional items	7.6±4.4	4.4±3.2	2.3±2.9	<0.001 ^a
Severity of illness index	2±0.8	1.1±0.6	0.5±0.4	<0.001 ^a
Global severity index	38.8±12	28.7±10.8	18.6±10.8	<0.001 ^a
Symptom distress index	2.7±0.5	2±0.6	1.4±0.39	<0.001 ^a
SSAS	30.7±7	27.8±6.9	24.6±7.9	<0.05 ^b

*p value from Kruskal-Wallis for somatization (SOM), and from ANOVA for somatosensory amplification scale (SSAS). a: All groups significantly differed from each other; b: Only CD and control differed significantly from each other.

psychoses (2–7%) and personality disorders (1–2%). Also they added that adequate recognition and treatment of psychiatric conditions in epilepsy is essential for patient management because of their considerable burden in morbidity and quality of life.^[13]

There are few population-based studies evaluating the prevalence of psychiatric conditions in people with epilepsy. Most of the studies included selected groups such as patients with refractory seizures; or, in most of the studies psychopathologies were evaluated as diseases diagnosed according to diagnostic criterias. In this study, psychopathological symptom dimensions were compared between patients with CD, with epilepsy and the healthy controls. Our sample of the patients with epilepsy had good seizure control. Most of the psychopathological symptoms including somatization, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, global severity index, severity of illness index and positive symptom total were highest in CD and lowest in healthy control, the epileptic patients were in between. Similar results were obtained in a study indicating general psychopathological symptoms higher in patients with pseudoseizure. But depression, obsessions and anxiety were dominating symptoms both in patients with epilepsy and pseudoseizures.^[14] The psychiatric comorbidity among patients with epilepsy was reported to be related with chronicity and se-

verity of epilepsy, also the prevalence is higher in patients with refractory epilepsy and seen at tertiary care centers.^[13] Higher scores in psychological items in patients with epilepsy were consistent with the psychiatric comorbidities.^[13,14]

Even most of the patients with epilepsy were seizure free, or had a single seizure per year, they had more severe psychopathological symptoms than the healthy control. The burden of psychopathologies present in patients with epilepsy may indicate that the mental state of patients with epilepsy was affected by factors other than the epileptic seizures which might be elucidated in further studies.

Somatosensory amplification is another psychological item compared between the three groups. Somatosensory amplification is defined by Barsky et al. as tendency to experience somatic sensation as intense, noxious, and disturbing.^[11] Patients with somatic amplification has a tendency to experience somatic sensation as intense, noxious and disturbing. Somatosensory amplification of benign bodily sensations may not be a unique correlate of hypochondriasis since it presents prominently in hypochondriasis. Some studies also suggest that amplification may be related to the more general process of somatization.^[15-18] In a study where the patients with CD were clustered according to psychological items, the group including patients with CD had significantly higher somatization than the patients with

epilepsy.^[19] In our study; although somatization is significantly different in all three sample groups, somatic amplification did not reveal such a difference. Although Barsky et al. also reported that the somatic amplification is a central predisposing factor in somatization and hypochondriasis;^[16,17] our results suggest a discrepancy between the presence of somatization and the severity of somatic amplification in patients with epilepsy.

It has been found that amplification of benign bodily sensations occurs prominently in hypochondriacal patients. However, it may not be a unique correlate of hypochondriasis, because some studies also suggest that amplification may be related to the more general process of somatization.^[8]

There are some limitations of this study. The study sample included patients from tertiary clinics' patient population, which is considered as a reference setting for most of the diseases. Also the sample was composed of epileptic patients with good seizure control. So the results are not applicable to the whole patient population. This study is cross-sectional study, hence it is impossible to determine direct relation between the psychological factors and the diseases.

In conclusion, the psychiatric burden in epileptic patients with good seizure control was proved to be less than in patients with CD but, more than in healthy controls. This result must be challenged in further studies including patients with different epileptic syndromes of variable severity as compared with CD and healthy controls.

References

1. Nicholson TR, Stone J, Kanaan RA. Conversion disorder: a problematic diagnosis. *J Neurol Neurosurg Psychiatry* 2011;82(11):1267-73.
2. Hurtwitz TA. Approach to the patient with psychogenic neurological disturbance. In: Kelly WN, editor. *Textbook of internal medicine*. Vol. 2. Philadelphia: JB Lippincott Company; 1989. p. 2518-21.
3. Sadock BJ, Sadock VA. Kaplan & Sadock's *Synopsis of psychiatry: Behavioral Sciences/clinical Psychiatry*. In: *Somatoform Disorders*. 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2007. p. 638-9.
4. Lesser RP. Psychogenic seizures. In: Pedley TA, Meldrum BS, editors. *Recent advances in epilepsy*. 2nd ed. Edinburgh: Churchill Livingstone; 1985. p. 273-96.
5. Wilkus RJ, Dodrill CB, Thompson PM. Intensive EEG monitoring and psychological studies of patients with pseudoepileptic seizures. *Epilepsia* 1984;25(1):100-7.
6. American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*. 4th ed. Washington, DC, American Psychiatric Association; 1994.
7. Tsopelas ND, Saintfort R, Fricchione GL. The relationship of psychiatric illnesses and seizures. *Curr Psychiatry Rep* 2001;3(3):235-42.
8. Tellez-Zenteno JF, Patten SB, Jetté N, Williams J, Wiebe S. Psychiatric comorbidity in epilepsy: a population-based analysis. *Epilepsia* 2007;48(12):2336-44.
9. Kanner AM. Do psychiatric comorbidities have a negative impact on the course and treatment of seizure disorders? *Curr Opin Neurol* 2013;26(2):208-13.
10. Hisli-Şahin N, Durak A. Kısa semptom envanteri: Türk gençleri için uyarlanması. *Türk Psikoloji Dergisi* 1994;13(2):44-56.
11. Barsky AJ, Goodson JD, Lane RS, Cleary PD. The amplification of somatic symptoms. *Psychosom Med* 1988;50(5):510-9.
12. Sayar K, Güleç H, Topbaş M. (2003c) *Bedensel Duyumları Büyütme Ölçeği'nin Güvenirliliği*. 39. Ulusal Psikiyatri Kongresi Kitabı; 14-19 Ekim 2003, Antalya. s. 660-1.
13. Gaitatzis A, Trimble MR, Sander JW. The psychiatric comorbidity of epilepsy. *Acta Neurol Scand* 2004;110(4):207-20.
14. Prueter C, Schultz-Venrath U, Rimpau W. Dissociative and associated psychopathological symptoms in patients with epilepsy, pseudoseizures, and both seizure forms. *Epilepsia* 2002;43(2):188-92.
15. Barsky AJ, Wyshak G, Klerman GL. The somatosensory amplification scale and its relationship to hypochondriasis. *J Psychiatr Res* 1990;24(4):323-34.
16. Barsky AJ, Cleary PD, Sarnie MK, Ruskin JN. Panic disorder, palpitations, and the awareness of cardiac activity. *J Nerv Ment Dis* 1994;182(2):63-71.
17. Barsky AJ, Wyshak G. Hypochondriasis and somatosensory amplification. *Br J Psychiatry* 1990;157:404-9.
18. Barsky AJ. Amplification, somatization, and the somatoform disorders. *Psychosomatics* 1992;33(1):28-34.
19. Brown RJ, Bouska JF, Frow A, Kirkby A, Baker GA, Kemp S, et al. Emotional dysregulation, alexithymia, and attachment in psychogenic nonepileptic seizures. *Epilepsy Behav* 2013;29(1):178-83.