

Post-traumatic Stress Disorder and Comorbid Psychotic Disorder: Electroconvulsive Therapy Response in Two Patients

Barbaros Ozdemir¹, Beyazit Garip², Taner Oznur², Murat Erdem¹, Suleyman Akarsu²

ÖZET:

Travma sonrası stres bozukluğu ve eşlik eden psikotik bozukluk: iki olguda elektrokonvulsif tedaviye yanıt

Travma Sonrası Stres Bozukluğu (TSSB) hastalarında eş zamanlı ruhsal bozuklukların görülme sıklığı yüksektir. Özellikle psikotik bozukluğun eşlik ettiği olgularda TSSB'nun tedavisinde kullanılan yöntemler bütün belirtilerin azaltılması açısından çoğunlukla yeterli olmamaktadır. Savaşla ilişkili TSSB'na eşlik eden psikotik bozukluk tanısı koyduğumuz ve elektrokonvulsif terapi (EKT) ile başarılı bir şekilde tedavi ettiğimiz iki olgu bildirdik. Böylece benzer olgularda EKT'nin faydalı bir tedavi yöntemi olarak düşünülmesi gerektiğini vurgulamak istedik.

Anahtar sözcükler: EKT, travma sonrası stres bozukluğu, komorbidite, psikotik bozukluk

Klinik Psikofarmakoloji Bülteni 2013;23(4):373-7

ABSTRACT:

Post-traumatic stress disorder and comorbid psychotic disorder: electroconvulsive therapy response in two patients

Comorbidity is highly prevalent in post-traumatic stress disorder (PTSD) patients. Treatment methods are often not enough to decrease all of the PTSD symptoms, especially in cases where PTSD is comorbid with psychotic disorder. We have reported two males with combat related PTSD and comorbid psychotic disorder, who were successfully treated with electroconvulsive therapy (ECT). We suggest that ECT should be considered as a reasonable treatment alternative for relevant cases.

Keywords: ECT, post-traumatic stress disorder, comorbidity, psychotic disorder

Bulletin of Clinical Psychopharmacology 2013;23(4):373-7

¹Assoc. Prof., ²M.D., Gulhane Military Medical Academy, Department of Psychiatry, Ankara, Turkey

Address reprint requests to: Doç. Dr. Barbaros Özdemir, Gülhane Askeri Tıp Akademisi Ruh sağlığı ve Hastalıkları Anabilim Dalı Ankara, Türkiye

Phone: +60-379-49-2068

E-mail address: ozdemirbarbaros@yahoo.com

Date of submission: December 11, 2012

Date of acceptance: February 16, 2013

Declaration of interest:

B.O., B.G., T.O., M.E., S.A.: The authors reported no conflict of interest related to this article.

INTRODUCTION

Post-traumatic stress disorder (PTSD) is defined as a mental disorder that arises from the experience of traumatic life events. Documented symptoms include re-experiencing the traumatic event, hyper-arousal and avoidance of stimuli associated with the trauma (1). None of the Diagnostic and Statistical Manual of Mental Disorders Text Revision (DSM-IV-TR) diagnostic criteria refers to psychotic phenomena such as delusions or hallucinations. Research has shown a high incidence of co-morbidity between PTSD and psychotic disorder; for example, psychotic disorder with PTSD and vice versa (2). The emergence of

psychotic disorder in PTSD patients raises important nosological questions about the disorder.

ECT is an effective treatment strategy in PTSD with psychotic features which resist conventional medications. Explanations for the mechanisms of ECT action have largely been limited to studies of the effect on brain metabolism, neurochemistry, and areas of the brain such as the hippocampus and frontal lobes. However, passing a current of electricity through the brain is clearly a holistic treatment, and consequently, a holistic theory may offer a better understanding of ECT action. Because of its effect on memory systems both positive and negative, it is possible that aspects of

memory function could hold the key to explaining how and why successful ECT treatment functions (3).

In our case reports, we described two patients with PTSD, who developed psychotic features later. We will also discuss the nosological status and treatment implications of this co-morbidity and report clinical and psychological efficiency of the ECT which was applied to PTSD patients with psychotic features. A limited number of the studies stated the efficiency of the ECT in the literature (4).

CASE 1

We present the first case of a 40 year old white male with a history of both PTSD and psychotic disorder. He had graduated from military high school and completed his service successfully as a sergeant. He had been married for ten years. He was admitted to mental health services after he had experienced combat related traumatic life events since 1993. He demonstrated auditory and visual hallucinations, persecutory delusions, recurring nightmares, hyper-arousal and insomnia. He also demonstrated disorganized and violent behaviors during the course of the disease. These symptoms have deteriorated in the last few months. He reported seeing men following him and hearing voices saying that some men were coming to get him. There were persecutory delusions like a possible terrorist attack and someone who is a member of a terrorist group planning to get him. He was withdrawn and quiet and there was some delay in his responses to questions. He was also distractible, hypervigilant and anxious. He also had persistent symptoms of increased arousal, with difficulties in sleep initiation and maintenance. Our patient presented visual and auditory hallucinations and persecutory delusions with content that mirrored his PTSD. He frequently relived the traumatic event through intrusive flashbacks and recurring dreams. Although he had demonstrated some of the PTSD symptoms like nightmares and re-experiencing of the trauma for a long time but he was not aware of the necessary of medical support. His background

history suggested co-morbid PTSD and psychotic disorder. He had experienced lots of the traumatic life events during his military service. He had poor relationships with his family and there was nobody who had psychotic or any other mental disorders in his family. He was injured during the military operation and had undergone some orthopedic operations so he gained some weight.

Observations of physical examination and neurological examination were normal. A metabolic evaluation was conducted during the hospitalization period. Assay results of the ALT, AST, ALP, GGT, fasting blood sugar, urea, Na, K, thyroid functions and vitamin profiles were in normal ranges. Brain magnetic resonance imaging (MRI) scan and abdominal USG were also conducted to elucidate any differential diagnosis. The results of his routine blood and urine tests were in the normal range. According to our clinical interview, he clearly fulfilled the DSM-IV-TR criteria for PTSD and psychotic disorder not otherwise specified (NOS). Because of the severity of his symptoms, our mental health team recommended hospitalization. He was started on antipsychotic (risperidone 4 mg/day) and antidepressant (venlafaxine 225 mg/day) drugs for his psychotic features and PTSD. He didn't show significant improvement after six weeks of treatment and we decided to start ECT together with pharmacotherapy (venlafaxine 225 mg/day and risperidone 4 mg/day). Anesthesia for electroconvulsive therapy was carried out with atropine 0.4 mg, propofol and 100% oxygen. The propofol infusion was given to the patient up until the bispectral index rate became 60. Succinylcholine (1 mg/kg) infusion was used for muscular relaxation. Seizures were induced by a Thymatron device (System IV; Somatics, Lake Bluff, Ill) using a stimulus titration schedule beginning at 25% (charge, 126 mC; frequency, 30 Hz; duration, 2.33 seconds; number of pulses, 140; current, 0.9 A; and pulse width, 1.0 milliseconds) until a seizure threshold of 60% was attained. Each stimulus resulted in adequate seizure durations ranging from 20 to 45 seconds. Bilateral electrode placement was used throughout the ECT course (3

weekly). Ten sessions of ECT were performed during the course of the treatment. After the ECT, some of the psychotic features like disorganized behaviors and speech, vivid hallucinations and delusions significantly improved. The initial BPRS and CAPS scores were 44 and 67 respectively. The BPRS scores decreased by a mean of 33.6%. The CAPS scores decreased by a mean of 37.3%. He self-reported a partial improvement in his clinical picture and his psychotic symptoms.

His PTSD and psychotic symptoms gradually resolved after 10 sessions of ECT treatment. Psychotic symptoms like persecutory delusions, hallucinations and disorganized behaviors improved during the treatment period. After the ECT procedure, the patient also demonstrated significant improvement in some of the PTSD symptoms, such as relief from reliving the traumatic events, and a lessening in hypervigilance, nightmares, avoidance and social and interpersonal disturbances.

After ECT treatment the dose of the antipsychotic was reduced within 2 weeks and was continued with the dosage of risperidone 1mg/day. The BPRS scores of patient taking risperidone 1mg/day and venlafaxine 225 mg/day for 2 months, decreased by 65.1% compared to baseline scores and the CAPS scores decreased by 44.5% compared to baseline scores.

CASE 2

The second case was a 42-year-old white male diagnosed with PTSD and psychotic disorder according DSM-IV TR criteria. He was a sergeant in the army and graduated from military high school. He had been married for sixteen years. The diagnosis was confirmed by a professional psychiatrist using a structural clinical interview. He presented to mental health services after he had experienced combat related traumatic life events so many times during his time in military service. He was complaining of social isolation, re-experiencing traumatic events, auditory and visual hallucinations, persecutory delusions, hearing sounds of dead soldiers, thinking if there is

someone, who is a member of an enemy wants to kill him, fears of being in a public area and not trusting anyone. He demonstrated emotional liabilities, hallucinatory behaviors, thought disorders like persecution delusions and intrusive thoughts and complained about unnecessary doubt which was not related with his real situation. His word production, perception, concentration and some of his cognitive functions could be effected from the PTSD and psychotic comorbidity. He was diagnosed to have depression when he was first seen in the mental health service. During the course of the disorder, he became noncompliant with his medication regimen. At our clinical interview, he clearly fulfilled the DSM-IV TR criteria for PTSD and psychotic disorder not otherwise specified. He was admitted to the hospital and treated with antipsychotic (risperidone 4 mg/day) and antidepressant (venlafaxine 225 mg/day) drugs. Physical examination, neurological examination and brain magnetic resonance imaging (MRI) scan were normal. The results of our routine laboratory analyses including ALS, AST, GGT, TSH, free-T3-T4, fasting blood sugar, WBC, infection marker, Vit-B12, Fe and ferritin blood levels were in the reference ranges. He also underwent brain and chest CT scans for the purposes of excluding traumatic brain injury and organic lesions. Psychometric and clinical assessment showed insignificant improvement after the antipsychotic and antidepressant treatments (after six weeks) so we decided to use ECT and medication together. The initial BPRS and CAPS scores were 42, 66 respectively. After the 8 sessions of ECT treatment, there was some of improvement of PTSD symptoms like re-experiencing, avoidance and nightmares. Psychotic features of the patient especially delusions, hallucinations and disorganized behaviors got better and the BPRS score decreased by a mean of 35.2%. PTSD symptoms decreased by a mean value of 37.2%.

After ECT treatment the dose of the antipsychotic was reduced within 2 weeks and was continued in the form of risperidone 1 mg/day. The BPRS and CAPS scores after taking risperidone

1mg/day and venlafaxine 225 mg/day decreased by 65.1% and 44.5% compared to baseline scores, respectively for two months.

DISCUSSION

In our case reports, we described two cases diagnosed with PTSD with psychotic disorder and treated with ECT successfully. Their PTSD symptoms developed soon after a severe traumatic experience associated with a military combat. Psychotic and PTSD symptoms significantly decreased after the ECT treatment. The findings reveal that although similarities exist, the comorbidity profiles differ according to the type of trauma experienced and the population studied. Additionally, the evidence suggests that the associated psychiatric disorders are not truly comorbid, but are interwoven with the PTSD (5). The findings suggest that PTSD is a common comorbid disorder in severe mental illness that is frequently overlooked in mental health settings (6). Clinicians often fail to screen routinely for trauma and PTSD symptoms in patients with severe mental illness because few systematic guidelines exist for the identification and treatment of this comorbidity (7).

In general, the literature implicates different types of treatment strategies in case of comorbidity. ECT may improve the core symptoms of PTSD independently of improvement in depression and may therefore be a useful treatment option for patients with severe, chronic, medication- and CBT-refractory PTSD. (4) Van Den Berg et al. stated that short EMDR therapy was effective and safe in the treatment of PTSD in subjects with a psychotic disorder (8). Watts stated that ECT was the most effective treatment for refractory major depressive disorder and might be an effective treatment for patients with refractory

depression and co-occurring PTSD (9). Kovačić, investigated 134 male war veterans with chronic PTSD with psychotic combat related features resistant to antidepressive therapy and found that olanzapine, fluphenazine, risperidone and quetiapine (given as a mono-therapy) were effective in reducing PTSD and psychotic symptoms in patients with psychotic combat related PTSD. Hamner et al. examined adjunctive risperidone in doses from 1 to 6 mg/day (average dose of 2.5 mg/day) in a 5-week, randomized, placebo controlled trial in 37 combat veterans treated in an outpatient setting. They were treated also with antidepressant or other pharmacotherapeutics at doses that were stable for one month prior to the study. Risperidone induced a greater reduction in psychotic symptoms accompanied with chronic PTSD but not overall PTSD symptoms in comparison to placebo (10). PTSD with severe depression is well documented with regard to ECT treatment but ECT treatment in PTSD patients with psychotic features is not well understood. ECT could be a treatment option in comorbid conditions.

The reason we have reported our patients are 2-fold. First, to show ECT is a quick and effective treatment modality in patients with war-related PTSD and comorbid psychotic disorder who have failed to response to an adequate dose and duration of psychopharmacological treatment. Second, ECT may be effective in reducing PTSD and psychotic symptoms in patients with psychotic combat related PTSD. Finally it should be noted that there would be a need for further studies or large-scale case reports emphasizing that ECT might be a priority treatment option in the patients with PTSD comorbid psychotic disorder. Thus, consideration may also be warranted for ECT in patients with PTSD and comorbid psychotic disorder.

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