

# Electroconvulsive therapy in a catatonic patient with clavicle fracture

Klavikula kırığı olan bir katatoni hastasında elektrokonvulsif tedavi

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## Abstract

Karl Kahlbaum defined catatonia in cases of schizophrenia that had firstly ecopraxia, fluctuating stupor, negativism, posturing, stereotypy, automatic obedience, and mannerism. Electroconvulsive therapy (ECT) and benzodiazepines (BZ) are the effective treatment options in catatonia. Vertebral and long-bone fractures were common in ECT and ECT had a relative contraindication in patients with bone disease before the routine usage of muscle relaxants in ECT. Despite a reduction of the risk with modern ECT procedures psychiatrist's concerns and fears about this issue are ongoing. ECT has been successfully performed in bone fractured and damaged patients. In this case report we presented a patient who had a clavicle fracture due to a traffic accident and simultaneously diagnosed with catatonia and had successfully treated with ECT and BZ.

**Keywords:** Catatonia; clavicle fracture; electroconvulsive therapy

## Özet

Katatoni ilk olarak Karl Kahlbaum tarafından balmumu esnekliği, ekopraksi, stereotipi, negativizm, mutizm, ekolalisi olan şizofreni hastalarında tanımlandı. Elektrokonvulsif tedavi (EKT) ve benzodiazepinler (BZ) katatoni tedavisinde etkili bulunmuş olup, katatoni tedavisinde başlıca tedavi yöntemleridir. Anestezi EKT'de kas gevşeticilerinin rutin kullanımı öncesi vertebra ve uzun kemik kırıkları EKT uygulanmasında sık görülmekteydi ve EKT kemik hastalığı olanlarda rölatif kontrendikasyondur. Kas gevşeticilerinin rutin kullanılmasıyla birlikte bu riskte azalma olmasına rağmen çoğu psikiyatristin bu konu hakkındaki endişeleri-korkuları devam etmektedir. Bu yazıda bir hastada trafik kazası sonrası klavikula kırığı ile eş zamanlı olarak gelişen bir katatoni olgusunun BZ ile EKT ile başarılı bir şekilde tedavi edilen bir olguyu sunmayı amaçladık.

**Anahtar kelimeler:** Katatoni; klavikula kırığı; elektrokonvulsif tedavi

## Introduction

Karl Kahlbaum defined catatonia in cases of schizophrenia that had firstly echopraxia, fluctuating stupor, negativism, posturing, stereotypy, automatic obedience, and mannerism (1). While catatonia had been linked to schizophrenia in early years nowadays it has also associated with other psychiatric disorders, medical, and neurological conditions as well (2). Head traumas, epilepsy, cerebral hemorrhage, metabolic and endocrinological disorders, electrolyte disturbances, infections, and medications might be the possible causes of catatonia (2). Electroconvulsive therapy (ECT) and benzodiazepines (BZ) are the effective treatment options in catatonia. (3). Vertebral and long-bone fractures was common in ECT and ECT had a relative contraindication in patients with bone disease before the routine usage of muscle relaxants in ECT (4,5). Despite a reduction of the risk with modern ECT procedures psychiatrist's concerns and fears about this issue are ongoing (4). ECT has been successfully performed in bone fractured and damaged patients (4). In this case report we presented a patient who

had a clavicle fracture due to a traffic accident and simultaneously diagnosed with catatonia and had successfully treated with ECT and BZ.

## Case

S.C. was 18 years old, single, male, and student. He was admitted to our outpatient clinic by his relatives with complaints of inability to speak and eat. waxy flexibility, and negativism that began after the traffic accident. The patient had figure-of-eight bandage due to right clavicle fracture. There was no individual or familial history of any psychiatric disorders. He was hospitalized for the differential diagnosis and treatment of catatonia. The results of blood count, biochemical, and thyroid function tests were normal. The clavicle fracture was seen in direct x-ray scan. Computerized tomography (CT) and magnetic resonance imaging (MRI) of the brain, electroencephalogram, and neurological examination and consultation were performed. All of the results of these instruments were in normal range and so neurological disorders were excluded. In psychiatric examination patient had blunt affect, mutism, negativism, and waxy flexibility. Catatonia associated with any psychiatric disorder was excluded by the sudden onset of catatonia, and absence of individual

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and familial history of psychiatric disorders according to the criteria of DSM-IV-TR. However, if we evaluated this case in the lights of DSM-5 approach the diagnosis of the patient would be Not Otherwise Specified Catatonia. BZ treatment was begun with lorazepam 5 mg/day and continued for 3 days. After three days there was no response to BZ treatment so ECT was planned to augment the treatment. ECT was started after the consultation of anesthesia and orthopedic surgery was performed, and the written consent was taken from the family. After the first ECT session, a dramatic improvement was seen. The patient began to eat and talk, and waxy flexibility resolved. Clinical Global Improvement-Severity scale score was decreased from 7 to 2. After the second ECT session the patient's catatonic symptoms had totally disappeared. The patient needed to be discharged after 7 days of hospitalization due to the wish and given written consent of the family with the 5-mg/day lorazepam treatment. BZ treatment was gradually decreased and stopped in three months after the discharge. The patient was followed for 6 months after stopping the medicine and the well-being had continued.

#### Discussion

Many conditions have been reported that might cause catatonia such as; head trauma, endocrine disorders, infectious diseases, systemic diseases, and drugs (4-8). In the present case report the patient might be thought to have cerebral hemorrhages and diffuse or focal neurological damage due to the head trauma after traffic accident. Wherefore, the first step that was done for the patient was excluding the all-possible neurological conditions that might be associated with catatonia by neurological examination and consultation, brain CT and MRI scans. As we mentioned in the presentation of the case, there was not any associated psychiatric disorder that may explain the status of the patient according to the criteria of DSM-IV-TR. When we treated this patient we had had a conflict about the diagnosis but the treatment modality that we used in the patient worked well. This may also shows that the DSM-5 catatonia approach is more useful than the DSM-IV-TR in clinical practice. So we are very grateful about the new evaluation criteria for such

cases. BZs, especially lorazepam, are recommended as the first treatment option in catatonia. ECT is recommended for poor responders or non-responders of at least 48-72 hours continued BZs treatment (3). Besides this, the usage of ECT and BZ together was suggested by some studies (3). How we treated our case was shaped under the lights of the literature as mentioned above. ECT was reported to be successfully performed in bone fractured and disordered patients (4,5). To the best of our knowledge, this is the first case that ECT was used successfully in the treatment for a patient who had catatonia with comorbid clavicle fracture.

Consequently; in a patient with bone fracture, ECT can be performed safely with multidisciplinary approach. This case may be a good example for the clinicians, especially psychiatrists, whom have concerns and fears about using ECT in patients with bone defects and/or fractures. There is a need for further studies in this issue including large number of patients.

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