

# Urinary retention associated with catatonia: A case report

*Katatoni ile ilişkili üriner retansiyon: Bir olgu sunumu*

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## SUMMARY

Catatonia was first introduced by Karl Kahlbaum at 1874. Catatonia is a syndrome that includes catalepsy, waxy flexibility, stupor, negativism, mutism, and echolalia. At first, it was linked with just schizophrenia for many years but it is currently known that this disorder may occur with other medical conditions and psychiatric disorders especially mood disorders. Several complications especially pulmonary, genitourinary, gastrointestinal may occur with catatonia. Here, we aimed to report a case of urinary retention associated with catatonia and treated with ECT and benzodiazepine. As a result, urinary retention and globe vesicale should be considered in patients presented with catatonia and it should be treated urgently.

**Key Words:** Catatonia, Globe vesicale, Schizophrenia, Urinary retention

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## ÖZET

Katatoni ilk olarak Karl Kahlbaum tarafından 1874 yılında tanımlanmıştır. Katatoni katalepsi, balmumu esnekliği, stupor, negativizm, mutizm ve ekolali gibi belirtilerle seyrederek. Önceleri sadece şizofreni ile ilişkilendirilirken günümüzde afektif bozukluklar başta olmak üzere diğer psikiyatrik bozukluklar ve tıbbi durumlara bağlı olarak da gelişebildiği bilinmektedir. Katatoni ile birlikte özellikle pulmoner, gastrointestinal, genitouriner olmak üzere birçok komplikasyon görülebilir. Bu olguda katatoniye bağlı gelişen, EKT ve benzodiyazepin tedavisi uygulanan bir üriner retansiyon olgusu sunmayı planladık. Katatoni gelişen hastalarda üriner retansiyon ve glob vezikale gelişebileceği göz önünde bulundurulmalı, geliştirse acil müdahale edilmelidir.

**Anahtar Sözcükler:** Glob vezikale, Katatoni, Şizofreni, Üriner retansiyon

## INTRODUCTION

Catatonia was first described by Karl Kahlbaum in 1874 (1). While the catatonia was only associated with schizophrenia in the past, it has been associated with other medical conditions since the 1960s (2). It is now known that it may develop due to other psychiatric disorders and medical conditions, especially affective disorders (3). In DSM-4-TR, catatonia was classified under three different headings, as a subtype of schizophrenia, as a result of mood disorders, and as a result of other medical conditions (4). In DSM-5, published by the American Psychiatric Association (APA) in 2013, the subtypes of schizophrenia have been removed and the catatonia has been dealt with under a separate heading in the section on 'Schizophrenia Spectrum and Other Psychotic Disorders', and three catatonic disorders have been identified as 'Catatonia Associated With Another Mental Disorder', 'Catatonic Disorder Due to Another Medical Condition' and 'Unspecified Catatonia' (5). According to this classification, patients who previously had a diagnosis of 'catatonic schizophrenia' will be diagnosed as 'Catatonia Associated With Another Mental Disorder' and 'Schizophrenia'. Catatonia frequency among psychiatric disorders is reported to be 7.6-38% (1). Catatonia may occur due to head trauma, CNS infections, epilepsy, metabolic and endocrine disorders, hepatic encephalopathy, liver failure, SLE (Systemic Lupus Erythematosus), infections (Hepatitis B-C, Ebstein Barr) and side effects of several drugs as well as psychiatric causes (6,7). Clinical manifestations of catatonia were defined as follows; motor inactivity associated with catalepsy, negativism, mutism, maintenance of a posture against gravity, stereotypy, repetitive odd actions (mannerism), grimacing, mimicking another's speech and movements (echolalia, echopraxia) (5).

Globe vesicale is a frequently painful condition characterized by sudden onset of urinary retention. Painless globe vesicale is rare and is often associated with central nervous system pathologies (8). The causes of the globe vesicale are mainly divided into four groups; obstructive, neurological, pharmacological and psychogenic (9). Globe vesicale most commonly occurs after a surgical operation and in the postnatal period, the most common

obstructive cause is gynecologic tumors (10,11). Emergency treatment of globe vesicale is an evacuation of the bladder via a urethral or suprapubic catheter (10).

In this article, we aimed to present a case of globe vesicale associated with catatonia and improved with ECT and lorazepam treatment.

## CASE REPORT

A 19-year-old male patient admitted to the emergency clinic with complaints of refusal to eat and drink for two days, not talking, standing in a fixed position for long times, apathy to the surroundings and stimuli, and inactivity. The patient's first admission to psychiatry was one year ago, he was hospitalized in our psychiatric unit, diagnosed with schizophrenia and was discharged with the treatment of paliperidone 6 mg/day. It was learned in anamnesis that he continued his follow-ups and used paliperidone 6 mg/day for two months. Then he declined his diagnose and did not use any medication for the last ten months. He was hospitalized to the psychiatric unit after emergency examination and neurological examination. Complete blood count, serum electrolytes, liver and renal function tests, hormone panel, infection panel, electroencephalography (EEG) and cranial MRI were performed and no pathology was detected. Fever, heart rate, and blood pressure follow-ups, which were done 8 times a day, were normal. The patient was consulted to internal medicine and neurology departments. Cooperation was limited in the neurological examination; cranial nerve examination was normal, deep tendon reflexes were normoactive, muscle strength in bilateral upper and lower limbs was evaluated as 5/5, sense and cerebellar examination could not be cooperated. A neurological or other pathology that would explain the current condition was not detected. The symptoms of mutism, negativism, posturing detected in the psychiatric examination and he diagnosed with "catatonia associated with other mental disorder" and "schizophrenia" according to DSM-5 (Diagnostic and Statistical Manual of Mental Disorders 5th edition) (Table-1). Lorazepam 3 mg/day was started with the diagnosis of catatonia and preparations were made for electroconvulsive therapy (ECT).

**Table 1.** Catatonia in DSM-5 (5)

Catatonia is defined as the presence of three or more of the following

1. Catalepsy (i.e., passive induction of a posture held against gravity)
2. Waxy flexibility (i.e., slight and even resistance to positioning by examiner)
3. Stupor (no psychomotor activity; not actively relating to environment)
4. Agitation, not influenced by external stimuli
5. Mutism (i.e., no, or very little, verbal response [Note: not applicable if there is an established aphasia])
6. Negativism (i.e., opposing or not responding to instructions or external stimuli)
7. Posturing (i.e., spontaneous and active maintenance of a posture against gravity)
8. Mannerisms (i.e., odd caricature of normal actions)
9. Stereotypies (i.e., repetitive, abnormally frequent, non-goal directed movements)
10. Grimacing
11. Echolalia (i.e., mimicking another's speech)
12. Echopraxia (i.e., mimicking another's movements)

On the second day of admission, the parents of the patient indicated that he did not urinate for three days. So, we examined him for globe vesicale due to the absence of urine output, and a urethral catheter was inserted, with a urine output of 1400 cc. For differential diagnosis of catatonia, a urinary toxicology was performed and no substance metabolite detected. The results of the urology consultation and abdominal ultrasound did not reveal a medical condition that would explain the globe vesicale. He had no history of drug, vitamin, herbal supplement use and intravenous hydration for the last month. We started to bilateral ECT for the treatment of catatonic symptoms. Improvement in catatonic symptoms was noted after the 4th ECT. Four days after the alleviation of the catatonic symptoms, the urinary catheter was removed and he was able to urinate of his volition. The patient diagnosed with 'Acute Urinary Retention Associated with Catatonia' because of the absence of subsequent development of urinary retention. A total of 8 sessions of bilateral ECT treatment was administered. After ECT and 3 mg/day lorazepam treatment, the severity of the disease was reduced from 7 to 2 in the clinical global impression (CGI) scale. His attention to the environment increased, eating and drinking improved, verbal communication started to be established. In interviews, he said he was suspicious that his relatives had trapped him and had poisoned his food. Because of the lack of insight on

his illness, and lack of compliance with oral treatment, paliperidone palmitate 100 mg/month intramuscular injection treatment was initialized. The patient was discharged on the 23rd day of admission, after arranging his outpatient follow-ups.

We obtained a written consent for this case report from the patient and his parents.

## DISCUSSION

The cessation of micturition and occurrence of globe vesicale simultaneously with catatonic symptoms, lack of any urological or other pathology that explain the urinary retention and globe vesicale, lack of any urological pathology in the patient's history and improvement of urinary retention after the treatment of catatonia with bilateral ECT and lorazepam, lead us to believe that globe vesicale and urinary retention was associated with catatonia. To our knowledge this is the third case of catatonia-related globe vesicale in the literature (12, 13).

Although the pathophysiology of catatonia is still unknown, many theories have been put forward. One of them claims that catatonia develops in response to intense anxiety (14, 15). Patients' feelings of anxiety during and before the catatonia,

patients' reports that they think they need to be immobilized against threats that may come from others, improvement in symptoms due to benzodiazepines, which are anxiolytics, have been suggested to support this theory. Another view put forward to explain the pathophysiology of catatonia is that it is a movement disorder like parkinsonism due to basal ganglia dysfunction. The most prominent neurons projected into the basal ganglia are GABAergic neurons, which may be the likely cause of treatment efficacy of benzodiazepines, which act through GABAergic neurons (14). In functional brain imaging studies, altered activities in catatonia patients were detected in orbitofrontal, prefrontal, parietal and motor cortical regions, and it was reported that some changes in these regions may play a role in etiology (16). These findings are supported by reduced GABA-A receptor activity in cortical regions of catatonic patients, correlation of catatonic symptoms with this reduced activity, and improvement in symptoms due to benzodiazepines acting through GABA-A.

Many complications in catatonia patients have been reported in the literature, some of which threaten the life of the patient and require immediate intervention. Pulmonary embolism and pneumonia have been reported in the literature as complications due to inactivity in catatonia patients (17). Aspiration is the most common pulmonary complication. Malnutrition and gastrointestinal complications are also common. Tooth decay and gum diseases due to reduced oral hygiene are frequent (18). Constipation due to dehydration has been reported (19). Catatonia-related genitourinary system complications are also common. Urinary retention, which requires catheterization, or urinary incontinence, which requires a diaper, may be observed. Malnutrition, poor hygiene and urinary system infections due to catheterization may be observed. Flexion contractures and rhabdomyolysis due to postural paralysis may be observed (18). To our knowledge, there are two cases of catatonia that was alleviated after rapid urinary excretion as a result of catheterization due to bladder atony have been reported in the literature (12, 13). One of the cases was about a catatonic schizophrenia patient and the other case the patient had no history of psychiatric disorder before catatonia. Urinary retention associated with

negativism in a patient who did not meet the diagnostic criteria of catatonia was reported, suggesting that urinary retention in catatonia cases may also be associated with negativism (9). In addition, a case of urinary retention developed in a schizophrenic patient with psychotic symptoms was reported in the literature. There is increased alpha 1 and dopaminergic activity in schizophrenic psychosis (20, 21). It has been reported that many neurotransmitters and dopamine have a role in the spontaneous bladder activity and the central and peripheral control of the micturition (22). It has also been reported that there is a relationship between increased dopaminergic activity and the development of urinary retention in Parkinson and Bipolar Disorder Type 1 patients without psychosis (23, 24). This relationship between urinary retention and psychotic symptoms indicates that urinary retention may be a consequence of neural mechanisms associated with psychosis (25).

In this article, we presented a case of catatonia-related urinary retention as well as a review of the literature on catatonia etiology and possible complications that may develop. We believe that this paper is important in drawing healthcare professionals' attention, who are involved in the treatment of psychiatric patients, to the possible development of urinary retention associated with catatonia, and that this article will contribute to the literature. The possible underlying pathophysiological mechanisms of urinary retention secondary to psychiatric disorders such as catatonia and schizophrenia are not yet conclusively known, and it is clear that there is a need for further case reports and studies in this regard.

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## REFERENCES

1. Taylor MA, Fink M. Catatonia in psychiatric classification: a home of its own. *Am J Psychiatry* 2003; 160:1233-1241.
2. Pfuhlmann B, Stober G. The different conceptions of catatonia: historical overview and critical discussion. *Eur Arch Psychiatry Clin Neurosci* 2001; 251:14-17.
3. Vırit O, Kokaaya MH, Kalenderođlu A, Altındađ A, Savař HA. Karmařık Bir Katatoni Olgusu. *Klinik Psikiyatri Dergisi* 2009; 12:51-55.
4. Fink M, Taylor MA. The many varieties of catatonia. *Eur Arch Psychiatry Clin Neurosci* 2001; 251:8-13.
5. Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-V), American Psychiatric Association, 2013.
6. Madan R, Lantz MS. Catatonia in late-life: the importance of recognizing an uncommon syndrome. *Clin Geriatr* 2003; 11:26-28.
7. řengül C, Dilbaz N, Üstün İ, Balcı-řengül C, Okay T. Subklinik hipotiroidinin eşlik ettiđi bir periyodik katatoni olgusu. *Anadolu Psikiyatri Dergisi* 2005; 6:57-59.
8. Choong S, Emberton M. Acute urinary retention. *BJU International* 2000; 85:186-201.
9. řahan E, Erođlu MZ. Negativism Associated Urinary Bladder Retansion: A Case Report. *Düşünen Adam The Journal of Psychiatric and Neurological Sciences* 2017; 30:262-265.
10. Waterhouse N, Beaumont AR, Murray K, Staniforth P, Stone MH. Urinary retention after total hip replacement. A prospective study. *J Bone Joint Surg Br* 1987; 69:64-66.
11. Van Der Linden EF, Venema PL. Acute urinary retention in women. *Ned Tijdschr Geneesk* 1998; 142:1603-1606. (Dutch)
12. Regestein QR, Kahn CB, Siegel AJ, Blacklow RS, Genack A. A case of catatonia occurring simultaneously with severe UR. *J Nerv Ment Dis* 1971; 152:432-5.
13. řahin ř, Bülbül F, Ünal M, Vırit O, Altındađ A, Savař H. Katatoniye Bađlı Glob Vezikale. *Journal of Mood Disorders*. 2012; 2:123-125.
14. Rosebush PI, Mazurek MF. Catatonia: re-awakening to a forgotten disorder. *Mov Disord* 1999; 14:395-397.
15. Moskowitz AK. "Scared stiff": catatonia as an evolutionary-based fear response. *Psychol Rev* 2004; 111:984-1002.
16. Northoff G. Catatonia and neuroleptic malignant syndrome: psychopathology and pathophysiology. *J Neural Transm (Vienna)* 2002; 109:1453-1467.
17. Swartz C, Galang RL. Adverse outcome with delay in identification of catatonia in elderly patients. *Am J Geriatr Psychiatry* 2001; 9:78-80.
18. Levenson JL. Medical Aspects of Catatonia. *Primary Psychiatry* 2009; 16:23-26.
19. Kaufmann RM, Schreiner D, Strnad A, Mossaheb N, Kasper S, Frey R. Case report: intestinal atonia as an unusual symptom of malignant catatonia responsive to electroconvulsive therapy. *Schizophr Res* 2006; 84:178-179.
20. Davis KL, Kahn RS, Ko G, Davidson M. Dopamine in schizophrenia: a review and reconceptualization. *Am J Psychiatry* 1991; 148:1474-1486.
21. Maas JW, Contreras SA, Miller AL, Berman N, Bowden CL, Javors MA, Weintrub S. Studies of catecholamine metabolism in schizophrenia/psychosis-I. *Neuropsychopharmacology* 1993; 8:97-109.
22. Stephenson JD. Pharmacology of the central control of micturition. *Funct Neurol* 1991; 6:211-217.
23. Benson GS, Raezer DM, Anderson JR, Saunders CD, Corriere JN. Effects of levodopa on urinary bladder. *Urology* 1976; 7:24-28.
24. Hullin RP, Jerram TC, Lee MR, Levell MJ, Tyrer SP. Renin and aldosterone relationship in manic depressive psychosis. *Br J Psychiatry* 1977; 131:575-581.
25. Shiloh R, Weizman A, Dorphman-Etrog P, Weizer N, Munitz H. Associated between severity of schizophrenic symptoms urinary retention. *J Eur Psychiatry* 2001; 16:497-500.