



Acute Urinary Retention Caused by Biperiden in a Female Patient: A Case Report

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Abstract

Biperiden is an anticholinergic drug mostly used to eliminate extra-pyramidal system side effects caused by antipsychotic drugs in psychiatry. It is grouped together with benztropin, procyclidin, and trihexyphenidyl, which have prominent antiparkinson effects, rather than anticholinergic drugs like oxybutynin, flavoxate, and dicyclomine, which have prominent genitourinary system side effects. It is well known that it can cause urinary retention as a side effect though this effect is known to be more dominant in males. It is reported that males with prostate hypertrophy have more risk for urinary retention. In the literature, we could not find any female patients developing urinary retention due to use of biperiden. In this report, we present a female patient with urinary retention caused by biperiden use.

Keywords: Anticholinergic; Biperiden; Urinary Retention.

Kadın Hastada Biperiden ve Akut Üriner Retansiyon: Bir Olgu Sunumu

Özet

Biperiden, psikiyatride çoğunlukla antipsikotik ilaçlara bağlı ortaya çıkan extrapiramidal sistem yan etkileri gidermek için kullanılan antikolinerjik bir ilaçtır. Genitoüriner sistem yan etkisi ön planda olan oxybutynin, flavoxate ve dicyclomine gibi antikolinerjiklerden farklı olarak, antiparkinson etkileri ön planda olan benztropin, procyclidine ve trihexyphenidyl ile birlikte gruplandırılır. Yan etki olarak üriner retansiyona sebep olabileceği bilinmektedir. Ancak bu yan etkinin özellikle erkeklerde ortaya çıktığı görülmüştür. Prostat büyümesi olan erkeklerin bu konuda daha fazla risk altında olduğu raporlanmıştır. Biz, literatür taramamızda kadınlarda biperiden kullanımına bağlı üriner retansiyon vakasına rastlamadık. Bu nedenle, yazımızda biperiden kullanımı sonrası üriner retansiyon gelişen bir kadın hastayı olgu olarak sunmaktayız.

Anahtar Kelimeler: Antikolinerjik; Kadın; Üriner Retansiyon.

INTRODUCTION

In psychiatry, biperiden is an anticholinergic medication often used to eliminate extrapyramidal system side effects antipsychotic drugs create. However, it causes side effects such as urinary retention, which occurs specifically in men with enlarged prostate. Symptoms of urinary retention are troublesome urination and difficulty to initiate urination. Most of the time, this may lead to immediate discontinuation of the drug, and even catheterisation. Although it is known that anticholinergic medications frequently bring about urinary retention in men, we did not come across any cases developing urinary retention following biperiden in women throughout our survey of the literature. In this paper, we present the case of a female patient who develop urinary retention after biperiden use.

CASE REPORT

H.G., a 27-year-old single female patient with an educational background of secondary school, was presented by his father in our outpatient clinic with complaints of excessive talking, insomnia, and hyperactivity. Mental status examination showed that the patient was conscious, cooperative, and oriented but

was talking excessively with a swift ability of associating things, increased psychomotor activity, and impaired judgment. The contents of her speech revealed a grandiose self so much that she believed herself to be the prime minister and could communicate with God along with persecutory delusions such as the family members' attempts to poison her. We observed increased self-care and elevated affection for herself. She lacked insight and had impaired judgment. Patient's history showed that the complaint had been present since the last 15 days. We also learnt that the patient had been followed for the last 15 years for bipolar affective disorder and the most recent medications she had been using were risperidone 2 mg/day and sodium valproate 1000 mg/day though she had stopped these drugs 1 month before contacting our clinic. With a diagnosis bipolar disorder and manic episodes, the patient was hospitalised. The physical examination was normal as were the laboratory tests (thyroid function tests, complete blood count, biochemical and hormonal analyses), which revealed no abnormalities. The patient's medical history was unremarkable except for the diagnosis for bipolar affective disorder. There was no history of any additional medication use or addiction prior to hospital admission. After the admission, we started administration of haloperidol 5 mg/day and sodium valproate 500 mg/day and soon increased the

amounts to haloperidol 10 mg/day and sodium valproate 1000 mg/day. During the close follow-up for EPS, the patient developed dystonia upon which we added biperiden 2 mg/day to the ongoing treatment. Having increased biperiden to 4 mg/day, the patient began to complain of difficulty in urinating and a sense of fullness in the bladder. In the tests conducted for the etiology of the issue, we did not come across any organic pathologies in the urology consultations. The urinalysis showed normal urine colour and appearance with a density of 1.000, pH: 6.5, Sq EP 1/HPF, 1 WBC 1/HPF, RBC 1/HPF, normal urobilinogen and glucose levels, and negative for proteins, blood, leukocytes, nitrite, bilirubin, and ketones. We did not observe reproduction in the urine cultures. The hemogram analysis showed WBC values of 9,4. The urine microscopic analysis did not reveal leukocytes or erythrocytes, either. TB culture and smear examination were also negative. The USG examination did not disclose any abnormalities like urinary stones that might lead to difficulty in urinating. We applied Foley catheterisation to provide the patient with symptomatic relief. Then we started reviewing the drugs the patient had been using. The patient had been on sodium valproate and haloperidol for about the last 20 days; about 4 days before the onset of acute urinary retention, biperiden had been added to the treatment. We discontinued biperiden and, in order to prevent EPS, we reduced and eventually stopped administering haloperidol and exchanged this drug with an atypical antipsychotic medication with fewer EPS side effects. 4 hours after we stopped biperiden, the patient was able to have minimal urine output. Within 20 days, the patient's complaints resolved completely.

DISCUSSION

Antipsychotic agents function by blocking dopamine receptors in the brain and mesolimbic pathway. They have mutual relations with the dopamine and acetylcholine nigrostriatal dopamine pathways. Normally, dopamine inhibits acetylcholine activity. Suppression of the dopamine activity by the antipsychotics results in increased acetylcholine activity. This increased activity of acetylcholine eventually brings about the emergence of extra-pyramidal symptoms (EPS). Acetylcholine receptors must then be blocked by an anticholinergic agent for compensation (1). These anticholinergic agents have some side effects and urinary retention is one of them. The M2 (70-80%) and M3 (20-30%) subtypes of muscarinic receptors in the human bladder smooth muscle have already been

described. It has been reported that these receptors do not solely have motor (efferent) activities; they also play a sensory (afferent) role in the bladder contractility (2). By binding to muscarinic receptors, anticholinergic drugs avert acetylcholine from binding with these receptors and inhibit detrusor contractions. Hence, these drugs suppress involuntary detrusor contractions that may surface by way of neuronal or urothelial acetylcholine basal release during the filling of the bladder (3). This causes difficulty in urination and emptying the bladder. These unwanted side effects in the psychiatric use of anticholinergics are used in treatment of overactive bladder in male patients by urologists (4). Throughout our survey of the present literature, we did not come across any cases with acute urinary retention due to use of anticholinergics in female patients. In a study conducted among 599 female patients to analyse the effects of anticholinergic drugs on urinary retention by evaluating post-urination residual volume (PVR), researchers have observed no difference between the groups with higher and lower anticholinergic risk scales (5).

In our case, the temporal relationship between the onset of symptoms and treatment along with the regression of symptoms after the discontinuation of the drug suggest to us that biperiden was the cause behind acute urinary retention. Besides, we did not notice any organic etiologies that might have led to acute urinary retention. As a result, despite the fact that use of anticholinergic drugs may result in acute urinary retention particularly in men with prostate growth, these drugs can similarly lead to the development of this problem in female patients and, therefore, symptoms should be considered.

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