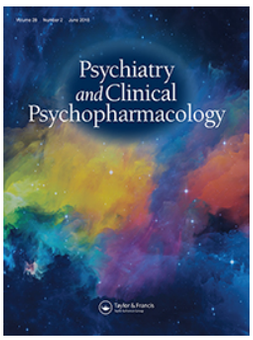

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CASE REPORT

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Acute urinary retention after alprazolam use: a case report

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ABSTRACT

Urinary retention is a condition in which impaired emptying of the bladder results in postvoid residual urine. Urinary retention has been well studied in observational studies and randomized controlled trials; data on the incidence of drug-induced urinary retention are scarce. In this article, a case of acute urinary retention developed after the use of alprazolam was discussed. A 67-year-old male underwent a prostatectomy operation for benign prostatic hyperplasia one month ago. Insomnia and dysphoria in the patient after the operation and alprazolam 1 mg/day was started. The patient started voiding problem after alprazolam treatment. No organic pathology was found to explain the table of existing urinary retention. The patient's complaints resolved completely after alprazolam treatment stopped. We should be more careful about drug-induced urinary retention. When prescribing a drug to a patient, a thorough knowledge of its mode of action, adverse effects and potential drug interactions are important in preventing drug-induced urinary retention, especially in patients who have other risk factors for urinary retention.

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Urinary retention; alprazolam; insomnia; anticholinergic activity; adverse effect; benzodiazepines

Introduction

Urinary retention is a condition in which impaired emptying of the bladder results in postvoid residual urine. It is generally classified into "acute" or "chronic" urinary retention [1,2]. Chronic urinary retention develops over a long period with development of a painless, palpable bladder due to a postvoid residual volume. Acute urinary retention is defined as the loss of ability to micturate. The retention itself is often painful, the onset is acute and it requires treatment by urinary catheterization. Risk factors are increasing age and urological conditions such as benign prostatic hyperplasia (BPH), prostate cancer, urethral stricture, surgery, and the use of medications. Due to the mixed mechanism of the mixture, many drugs may interact with the pathway in different modes. Although the incidence of urinary retention, in particular acute urinary retention, has been well studied in observational studies and randomized controlled trials, data on the incidence of drug-induced urinary retention are scarce [3]. Observational studies suggest that up to 10% of episodes might be attributable to the use of concomitant medication. Urinary retention has been described with the use of drugs with anticholinergic activity (e.g. antipsychotic drugs, atropine, antispasmodics and anticholinergic respiratory agents), antidepressant agents, alpha-adrenoceptor agonists, benzodiazepines, NSAIDs, opioids and anaesthetics, calcium channel antagonists, and detrusor relaxants. In this article, a case of acute urinary retention developed after the use of alprazolam was discussed.

Case

A 67-year-old male, married, primary school graduated patient underwent a prostatectomy operation for BPH one month ago. Complaints of insomnia and dysphoria after the operation started in the patient who had no psychiatric story, smoking and alcohol use before the operation. Alprazolam 1 mg/day was started to the patient who applied to the psychiatric doctor with these complaints. After the second day, following second-dose alprazolam treatment, the patient's psychiatric complaints disappeared. The patient had no post-operative voiding problem, voiding problem started after alprazolam treatment. Then the patient was admitted to the urology service again due to the urinary retention. Organic causes that could cause urine retention were researched. In the tests conducted for the aetiology of the issue, we did not come across any organic pathologies. The urinalysis showed normal and did not observe reproduction in the urine cultures. The urine microscopic analysis did not reveal leucocytes or erythrocytes, either. The thyroid function tests, complete blood count, biochemical and hormonal analyses were normal. The ultrasound sonography examination did not disclose any abnormalities that

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might lead to difficulty in urinating. The patient underwent cystoscopy. But no organic pathology was found to explain the table of existing urinary retention in the patient. The Foley catheterization was performed to provide symptomatic relief to the patient. Then the patient was consulted to us about drug-induced urinary retention. We started reviewing the drugs the patient had been using. It was seen that the patient did not start a drug other than alprazolam after the operation. And then we stopped the fifth-day alprazolam treatment. Seven hours after we stopped alprazolam, the patient was able to have minimal urine output. Within five days, the patient's complaints resolved completely.

Discussion

Urinary retention due to alprazolam in the patient was considered because of no recent drug use except for alprazolam in the last period in the patient so the patient could not void after alprazolam use and after alprazolam was stopped the patient could void easily again. Besides, we did not notice any organic aetiologies that might have led to acute urinary retention. And so, we have excluded the possibility that the patient's urinary retention is a complication due to the patient's operation and other organic causes. For all these reasons, urinary retention due to alprazolam in the patient was considered. Previous reports of urinary retention following clonazepam and diazepam use have been reported [4–6]. For example, Benazzi reported urinary retention with a sertraline, haloperidol, and clonazepam combination [4] and Maany et al. reported urinary retention with long-term diazepam abuse [6]. But, as far as we know, there has been no report of acute urine retention after the use of alprazolam in the literature. Some authors suggested that this is probably caused by muscle relaxation; thus, micturition following the ingestion of benzodiazepines is impaired [7]. In contrast, some authors have suggested that the anxiolytic and skeletal muscle-relaxing properties of benzodiazepines may be helpful in treating or preventing acute urinary retention [1,7]. In addition, increasing age, urological conditions, medical conditions, surgery and the use of certain medications are the risk factors for developing urinary retention [8]. Particularly elderly men patients are at higher risk for developing drug-induced urinary retention, because of existing co-morbidities such as BPH and the use of other concomitant medication that could reinforce the impairing effect on micturition [1]. Our patient had no organic causes about urinary retention. It may be the urinary retention due to the use of alprazolam may be associated with age of the patient and his additional urological problems.

Conclusion

This case is remarkable both reporting the development of urinary retention after alprazolam use and in attracting attention to urinary retention that may develop with the use of benzodiazepine in elderly patients with disorders that have impairing effect on micturition. When prescribing a drug to a patient, a thorough knowledge of its mode of action, adverse effects, and potential drug interactions are important in preventing drug-induced urinary retention. In high-risk populations in particular, such as elderly men, a thorough anamnesis, and physical examination for identification of risk factors, a careful review of the use of other medications, and use of the lowest effective dose might reduce the risk of developing urinary retention.

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Disclosure statement

No potential conflict of interest was reported by the authors.

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