

Case Report



Acute Urinary Retention Associated with Trazodone: A Case Report

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Introduction: Trazodone is an antidepressant that acts on multiple serotonin receptors, particularly 5-HT_{2A} and 5-HT_{2C}, contributing to its antidepressant and anxiolytic effects. While most urinary side effects linked to trazodone involve incontinence, acute urinary retention is rarely reported. Pharmacological effects on serotonin receptors and possible anticholinergic-like activity may influence urinary function.

Case Report: We presented a 41-year-old woman treated with trazodone for depression and claustrophobia, who developed severe acute urinary retention lasting three days. The patient experienced difficulty initiating urination, with no prior urinary tract pathology. After discontinuation of trazodone, spontaneous urination resumed promptly and without recurrence.

Conclusion: Although acute urinary retention is an uncommon adverse effect of trazodone, clinicians should remain vigilant, particularly in patients with risk factors for impaired bladder emptying. Careful monitoring of urinary function may help prevent complications while ensuring effective treatment of psychiatric conditions.

Keywords: Case reports, Urinary retention, Trazodone

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Introduction

Trazodone is a versatile antidepressant that is primarily indicated for the treatment of major depressive disorder (MDD). As a triazolopyridine, it acts as a serotonin receptor antagonist and reuptake inhibitor, which distinguishes it from traditional selective serotonin reuptake inhibitors (SSRIs). Trazodone's unique pharmacological profile allows it to effectively address various symptoms of depression, including insomnia and anxiety, while minimizing the side effects associated with SSRIs, such as sexual dysfunction (1, 2).

Trazodone acts on several serotonin receptors, in particular 5HT_{2A} and 5HT_{2C}, which contributes to its antidepressant effect (3). In addition to MDD, trazodone is also used for anxiety disorders, post-traumatic stress disorder (PTSD), and insomnia, which underlines its versatility (4). It is particularly effective in elderly patients and those with neurological comorbidities, where it helps to treat depressive symptoms without the risks associated with benzodiazepines (2). Despite its efficacy, further large-scale studies are needed to fully establish the role of trazodone in the treatment of various psychiatric and medical conditions (4).

Although trazodone is generally well-tolerated, it is associated with various side effects. Somnolence, sedation, dizziness, headache, xerostomia, orthostatic hypotension, priapism, QT interval prolongation, and Parkinsonism are the side effects of trazodone that occur in some patients (2). The prevalence of urinary retention in patients taking trazodone appears to be low, and there are few documented cases. One case report described urinary incontinence in a menopausal woman taking trazodone. This suggests that although urinary retention is not commonly reported, side effects can still occur (5). A systematic review conducted by Walker et al. found that urinary retention is more commonly associated with other antidepressants, such as duloxetine, than with trazodone, which did not cause urinary retention in a study of 1,139 patients (6). Several case reports have also shown that other antidepressants, particularly duloxetine, have a higher incidence of urinary retention (7-9). Overall, the evidence suggests that while trazodone can cause urinary problems, urinary retention is not a common side effect.

Although trazodone is primarily associated with urinary incontinence (10) rather than retention, it is important to consider its potential effects on urinary function. In the



present study, we discuss the case of a 41-year-old woman who had been treated for phobias and depression for more than 20 years. She developed severe acute urinary retention after prescribing trazodone.

Case Report

We report a 41-year-old married female patient who presented to the psychiatric clinic with acute urinary retention after taking trazodone. At the time of presentation, she weighed 68 kg and was 165 cm tall (BMI = 24.98 kg/m²) and appeared adequately dressed but notably agitated. She had suffered from depression for 20 years, initially diagnosed postpartum, and had a long history of claustrophobia. In the past, she had been treated with clonazepam (0.5 mg twice daily) for several months, which was discontinued 5 years earlier due to remission of acute anxiety symptoms. Her physical comorbidities included hypothyroidism, which had been diagnosed 12 years earlier and for which she was taking levothyroxine (75 µg/day). She denied other chronic diseases such as diabetes mellitus, hyperlipidemia, and hypertension. Her family history included recurrent depressive disorders in her father, who required pharmacotherapy, and stress-related anxiety in her paternal grandmother. There was no family history of urological diseases.

Three days before she visited the psychiatrist, she was prescribed trazodone 50 mg at bedtime to treat insomnia and low mood in addition to the existing depressive symptoms. Within 72 hours, she developed urinary retention, characterized by inability to urinate for 48 hours, suprapubic discomfort, and restlessness. Before this episode, she reported normal urinary habits. She denied dysuria, hematuria, fever, or flank pain.

On examination, she appeared anxious but was otherwise stable, with a blood pressure of 115/70 mmHg, a heart rate of 82 bpm, a respiratory rate of 16/min, and a temperature of 36.8°C. Abdominal palpation revealed midline suprapubic fullness; percussion and cystoscopy suggested distension of the bladder. Pelvic (gynecologic) and neurologic examinations were unremarkable.

The laboratory tests revealed: Urinalysis, negative nitrites, protein, and glucose, no leukocyte esterase, erythrocytes 0–1/high-power field (hpf) (reference: 0–3/hpf), leukocytes 0–2/hpf (reference: 0–5/hpf), specific gravity 1.020, pH 6.0; Blood Urea Nitrogen (BUN) 9.8 mg/dL (reference: 6–24 mg/dL), and serum creatinine 0.8 mg/dL (reference: 0.6–1.1 mg/dL). These findings ruled out urinary tract infection, acute kidney injury, and obstructive nephropathy.

All other possible causes (anatomic obstruction, neurogenic bladder, and metabolic disorders) were ruled out by history, examination, and laboratory evaluation. No imaging was performed because the absence of abnormal findings did not require further workup. Given the close temporal relationship between trazodone use and the onset of acute urinary retention (within three days) and in light of the normal findings on the comprehensive organic examinations, immediate discontinuation of the drug was considered the most appropriate initial action.

The Naranjo probability score for adverse drug reactions was calculated as 7, indicating a “probable” association between trazodone use and acute urinary retention. According to the WHO-World Health Organization – Uppsala Monitoring Centre (UMC) system, causality was classified as “probable/probable.”

Trazodone was discontinued immediately, and spontaneous voiding occurred within 12 hours of discontinuation. During the following 3-month follow-up, no recurrence of urinary retention was reported while the patient was taking sertraline (Asentra) 50 mg daily and lorazepam 1 mg/day. A retrial was attempted because the patient refused. For ethical reasons, deliberate re-challenge to a suspected causative medication is considered inappropriate given the potential risk of recurrence of a serious adverse event.

Discussion

We present a case of severe acute urinary retention associated with trazodone. Trazodone, an antidepressant, may cause urinary retention through its pharmacologic effects on serotonin receptors and potential anticholinergic properties. Understanding these mechanisms is critical for clinicians prescribing this medication.

Trazodone acts as a weak serotonin reuptake inhibitor and strong antagonist of serotonin receptors 5HT_{2A} and 5HT_{2C}. This interaction can interfere with normal bladder function and potentially lead to urinary retention (5). Although trazodone is not primarily classified as an anticholinergic, its influence on neurotransmitter systems may mimic such effects and thus contribute to urinary retention (11).

The relationship between trazodone use and urinary complications has been explored in various studies, highlighting its potential side effects. A case report documented a 63-year-old woman who experienced urinary incontinence after starting trazodone, which resolved upon discontinuation of the drug (5). The systematic review of antidepressants indicated that urinary retention was not reported in patients taking trazodone (6). Other antidepressants, such as imipramine, have shown a higher incidence (17.6%) of urinary retention, suggesting that the risk may vary significantly among different medications (6).

Despite the limited direct evidence linking trazodone specifically to urinary retention, its association with urinary incontinence suggests a need for caution. The review of medical literature emphasized the need for clinicians to consider urinary side effects when prescribing psychotropic medications, including trazodone (6).

Trazodone is characterized by a low risk of anticholinergic side effects compared to older antidepressants (2). However, it can cause urinary retention, particularly in patients with existing bladder dysfunction. Elderly patients are particularly susceptible to urinary retention due to the cumulative effects of multiple medications, including trazodone (12). Also, medical reports indicate that urinary problems may occur in various populations,

including patients with pre-existing conditions such as benign prostatic hyperplasia (11). The interaction of trazodone with other medications may further complicate urinary function, as has been observed in cases with other psychotropic drugs (13).

The risk of urinary retention in patients taking trazodone may be influenced by adjusting the dosage and combining it with other medications. There is evidence that certain antidepressants, particularly those with anticholinergic properties, may exacerbate urinary retention. Antidepressants such as duloxetine and olanzapine have been associated with urinary retention, with cases reported where discontinuation of the medication led to a disappearance of symptoms (7, 8). Reducing the dose or switching to other medications such as venlafaxine has been shown to be effective in the treatment of urinary retention (8). The literature suggests that careful monitoring and possible dose adjustments can reduce the risks, especially in patients taking multiple medications (14-16). While adjusting the trazodone dosage or combining it with other medications may be helpful, the complexity of drug interactions requires a cautious approach, particularly in vulnerable populations such as the elderly, who are at higher risk of urinary retention (14).

In summary, while trazodone is effective in the treatment of depression, its potential to cause urinary retention requires careful monitoring, particularly in vulnerable populations.

Conclusion

This case highlights acute urinary retention, a rare but clinically significant side effect of trazodone. Trazodone's pharmacologic effects on serotonin receptors and potential anticholinergic-like effects can hinder bladder emptying in vulnerable people, even though it is typically well tolerated and more frequently linked to urinary incontinence. For prompt diagnosis and treatment, it is essential to identify this possible complication, especially in patients who have medical or mental health conditions that make them more susceptible to urinary dysfunction. After starting trazodone, clinicians should be on the lookout for any new urinary symptoms and should think about stopping the medication right away to avoid major side effects. To better understand the prevalence, risk factors, and mechanisms of trazodone-induced urinary retention, large-scale research is necessary.

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Authors' Contribution

Conceptualization & Project administration: Seyed Hamzeh Hosseini. Investigation: Hamed Ghazvini. Validation: Masoumeh Seyedhosseini Tamijani. Writing—original draft: Raheleh Rafeaiee.

Competing Interests

The authors declare that they have no conflict of interest.

Ethical Approval

This study was designed based on the ethical principles of the Declaration of Helsinki (2008) for medical studies involving humans.

The local Ethics Committee affiliated with Mazandaran University of Medical Sciences approved this study (Ethical Registration No.: IR.MAZUMS.REC.1403.228). Informed consent was obtained from the patient before publication.

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