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## Letter to the Editor

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**SERTRALINE-INDUCED ACUTE URINARY  
RETENTION IN A PATIENT WITH  
ADJUSTMENT DISORDER**

**Dear Editor,**

On account of better tolerability, using selective serotonin reuptake inhibitors (SSRIs) is preferred to the classical antidepressants (Ştefan et al. 2020). Sertraline is an SSRI with a degree of inhibitory effect on reuptake of dopamine; and its side effects include irritability, akathisia, drowsiness, insomnia, headache, sweating, dizziness, tremor, shivering, nausea, indigestion, loss of appetite, weight loss, diarrhea, xerostomia, ejaculation disorder, skin rash, dystonia, and parkinsonism. On the other hand, incidences of acute urinary retention (AUR) are very rare due to the minimal anticholinergic effect of sertraline (Shakya and Shah 2018). We aimed to present in this article a case of sertraline-induced AUR in a patient with exacerbated depression, and adjustment disorder after radical prostatectomy.

**Case:** The 62-year-old male patient consulted the urology outpatient clinic with complaints of lower urinary tract symptoms. After examinations, the patient was diagnosed with prostate adenocarcinoma. The patient, without any comorbidities or a history of drug use, developed symptoms of hopelessness, sadness, temporary anger attacks, sleep disorder, and loss of appetite immediately after the diagnosis of cancer and refused pharmacotherapy for his symptoms and surgery for prostatic cancer. When consulting for controls four months after the diagnosis of cancer,

the patient was convinced to undergo surgery. Radical prostatectomy and lymph node dissection were performed.

A psychiatric consultation was requested when his psychological complaints, functionality, and treatment compliance significantly deteriorated after the surgery. The patient was diagnosed with adjustment disorder with depressed mood. Because of its low anticholinergic side effects, sertraline (25 mg/day) was prescribed with a dose increase to 50 mg/day after one week. When the treatment was completed, the patient was discharged with the intraoperatively placed urethral catheter in situ and on maintenance therapy with sertraline. After removing the urethral catheter on the postoperative 8th day, three incidences of AUR occurred within one month. The patient was rehospitalized for further examination. Firstly, the urological causes of AUR were investigated since urinary retention is not listed by the US Food and Drug Administration (FDA) in the side effect profile of sertraline. Urinary ultrasonography demonstrated approximately 350 mL of residual urine versus the standard value of 0–150 mL. The subsequent pressure-flow study showed that the bladder-urethra pressure-flow profile was within normal limits. Lastly, diagnostic urethroscopy under general anesthesia indicated that the urethra, sphincter, and bladder neck were normal. The possibility of sertraline causing the AUR in light of these normal findings was assessed, therefore the sertraline dose was reduced and then ceased. The patient's treatment was continued with 10 mg escitalopram. He became able to urinate spontaneously when the urethral catheter was removed one week after sertraline was discontinued. The patient was discharged after completion of his treatment. In the controls three months later, the symptoms of low mood, hopelessness, and short temper had regressed and treatment compliance had improved. Also, a recurrence of prostate cancer was not detected.

**Table 1.** Patients who Developed Sertraline-related AUR and Their Clinical Characteristics

Reference	Age-Gender	Diagnosis	Occurrence of first symptom	Dosage at time of symptom development	Necessary interference	Treatment	Time to normal micturition
Benazzi 1998	29-Female	OCD	On 5th day	50 mg/day	Catheter	Cessation of the drug	At 26th hour
Lowenstein et al. 2007	57-Female	Depression	In 9th month	50 mg/day	Catheter/ Pressure-flow study	Cessation of the drug	On 7th day
Lowenstein et al. 2007	70-Female	Depression	On 7th day	25 mg/day	Catheter	Cessation of the drug and alpha-blocker	On 10th day
Shakya and Shah 2018	30-Female	Depression	On 3rd day	100 mg/day	Catheter	Cessation of the drug	On 7th day
Present study	62-Male	Adjustment disorder	On 8th day	50 mg/day	Catheter/ Pressure-flow study/	Cessation of the drug	On 7th day

OCD: Obsessive-compulsive disorder.

**Discussion:** AUR is often a painful urological emergency developing in obstructive cases such as benign prostate hyperplasia, bladder outlet obstruction, and urethral stricture or due to nonobstructive causes such as pharmacological drugs (Akpınar 2009, Turan et al. 2020). AUR may result in urinary tract infection and acute renal failure if untreated. Diagnosis of AUR may require invasive diagnostic procedures, such as pressure-flow study or diagnostic urethrocytostomy (Demirdögen et al. 2017); and management involves bladder decompression by means of a urethral or suprapubic catheter.

There is not a consensus on how sertraline causes urinary system side effects despite having minimally anticholinergic effects. Its neurotransmitter role in the serotonin control of the lower urinary system is known (Andersson and Pehrson 2003). Research on animals has shown that serotonergic receptors influence micturition and that SSRIs mediate the contraction of the external urethral sphincter, contributing to the retention of urine (Thor et al. 2002). Sertraline may cause urinary incontinence or AUR by affecting urination physiology with effects on the Onuf's nucleus, responsible for external urethral sphincter innervation, the lumbosacral autonomic nuclei controlling the external urethral sphincter and the detrusor muscle, and the raphe nuclei which also control the detrusor muscle (Shakya and Shah 2018).

Case reports in the literature demonstrate that AUR develops after both low and high doses of sertraline suggesting the possibility of a dose-independent side effect (Lowenstein et al. 2007, Shakya and Shah 2018). It is reported that females are more prone to sertraline-induced AUR which may be associated with a higher prevalence of depression among females or a higher incidence of treatment-seeking for depression in the female population (Lowenstein et al. 2007, Shakya and Shah 2018, Benazzi 1998). The reports indicate that AUR development is mostly observed in the early stage of treatment with sertraline and can be detected on the third day (Lowenstein et al. 2007, Shakya and

Shah 2018), although it is also detected ninth month after starting sertraline use. Invasive interventions such as pressure-flow studies and emergency urethral catheter applications are used in AUR cases to assess whether urinary retention is a drug-related side effect (Lowenstein et al. 2007). All existing case reports show that spontaneous urine flow returns shortly after cessation of sertraline use. In one case only the return to normality was delayed by 10 days (Lowenstein et al. 2007).

**Conclusion:** AUR is not a well-defined and well-known side effect of sertraline. Table 1 presents the clinical features of the patients reported to have developed AUR after sertraline use. Given the paucity of the data in the literature on sertraline caused AUR, mismanagement of these side effects may result in unnecessary invasive and diagnostic procedures requiring anesthesia, as also implemented in our patient. We believe that unnecessary diagnostic procedures may not be required for the management of this sertraline side effect by presentation of the clinical data on the encountered cases.

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## REFERENCES

- Akpınar A (2009) Acute prostatism associated with milnacipran therapy: a case report. *Turk Psikiyatri Derg* 20:403–5.
- Andersson KE, Pehrson R (2003) CNS involvement in overactive bladder: pathophysiology and opportunities for pharmacological intervention. *Drugs* 23:2595–611.
- Benazzi F (1998) Urinary retention with sertraline, haloperidol, and clonazepam combination. *Can J Psychiatry* 43:1051–2
- Demirdögen, Ş. O., Yıldırım D, E., & Adanur, Ş. (2017) Acute urinary retention after venlafaxine use. *Arch Ital Urol Androl* 89:160–1
- Lowenstein L, Mueller ER, Sharma S et al (2007) Urinary hesitancy and retention during treatment with sertraline. *Int Urogynecol J Pelvic Floor Dysfunct.* 18:827–9

- Shakya R, Shah B (2018) Sertraline induced urinary retention: A case report. *J Psychiatrists' Association of Nepal* 7:59-61
- Ştefan, M. G., Kiss, B., Gutleb, A. C., et al (2020) Redox metabolism modulation as a mechanism in SSRI toxicity and pharmacological effects. *Arch Toxicol* 94:1417-41
- Thor, K. B., Katofiasc, M. A., Danuser, H., et al (2002) The role of 5-HT(1A) receptors in control of lower urinary tract function in cats. *Brain Res* 946:290-7
- Turan B., Dursun O. B., Esin İ. S., et al (2020) Atomoxetine-induced urinary retention: a case report. *Anadolu Psikiyatri Derg* 20:222-4

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