Urinary Retention:

An Uncommon Adverse Effect of Venlafaxine

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Venlafaxine belongs to a class of antidepressants that act by inhibiting reuptake of serotonin, norepinephrine, and some amount of dopamine.[1] It has theoretically no anticholinergic activity, unlike the classic tricyclic antidepressants. Therefore, it lacks anticholinergic side effects such as dry mouth, glaucoma, constipation, and urinary retention. The most common side effects are nausea, somnolence, hypertension, anxiety, and sexual dysfunction.[2]

The indirect effect on the urinary bladder due to adrenergic effects from norepinephrine reuptake blockade can lead to urinary incontinence in some cases.[3] Venlafaxine-induced urinary incontinence has been reported in the literature.[4–7] This specific drug-induced effect is likely to mediate the possible therapeutic use of venlafaxine for reducing postvoiding residual volume in patients with a spinal cord lesion.[8]

However, urinary retention is not a commonly reported adverse effect of venlafaxine. In our literature review, we found only a few case reports of acute urinary retention with venlafaxine.[9–11] The reported cases of urinary retention were either with a higher dose or use of venlafaxine in conjunction with other psychotropic drugs.[9–11] We describe a case of urinary retention in a young man with use of lower doses of venlafaxine.

Case Report

A 33-year-old man presented to the outpatient clinic with symptoms suggestive of severe depressive episode[12] following a financial setback. The patient was started on venlafaxine, which had been increased from 75 mg/d to 112.5 mg/d over 4 weeks. The patient reported difficulty urinating at the subsequent follow-up. There was nothing suggestive of genitourinary system pathology or neurologic involvement in the past. There was no abnormality on imaging of the bilateral kidney and urinary bladder. Urine microscopy and urodynamic study reports were within normal limits. The urologist advised for psychiatry consultation given the possibility that the recent increase in venlafaxine dose led to urinary retention.

We reduced the dose of venlafaxine to 75 mg/d, which resulted in improvement in urinary symptoms. We then completely stopped venlafaxine and started the patient on mirtazapine 15 mg/d. There was complete resolution of the inability to urinate, and the patient was stabilized on mirtazapine along with cognitive-behavioral therapy over 9 months.

Discussion

Lower urinary system symptoms can have a significant impact on quality of life. The common causes of urinary retention include vesical stone, urethral strictures, neurologic insult, acute prostatitis, or medications such as α-adrenergic agonists.[13] Antidepressants such as duloxetine have been used to treat stress urinary incontinence in women.[14] In animal models, venlafaxine has produced an effect on the bladder quantitatively similar to duloxetine.[15] In our case, based on a probability scale for causality assessment by Naranjo et al,[16] urinary retention was possibly due to the increase in dose of venlafaxine. The increased sympathetic stimulus likely resulted in an indirect reduction in parasympathetic tone, causing urinary retention.[17] We considered mirtazapine as the next best choice in view of its peripheral α-1 adrenergic antagonist effects leading to direct relaxation of urinary bladder muscles.[18–20] The limitation of our report is that there was no quantitative method to objectify the findings.

Conclusion

The reported case highlights the need to consider urinary side effects while prescribing venlafaxine. Clinicians should exercise caution when considering venlafaxine as a therapeutic agent for managing vesico-sphincter dyssynergia in patients with spinal cord lesions.

Article Information

Published Online: December 14, 2023. https://doi.org/10.4088/PCC.23cr03605

Prim Care Companion CNS Disord 2023;25(6):23cr03605

Submitted: June 17, 2023; accepted September 11, 2023.

To Cite: Yadav J, Manocha N, Yadav A, et al. Urinary retention: an uncommon adverse effect of venlafaxine. *Prim Care Companion CNS Disord.* 2023;25(6):23cr03605.

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Relevant Financial Relationships: None.

Funding/Support: None.

Patient Consent: Consent was received from the patient to publish the case report, and information has been de-identified to protect anonymity.

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