# is illegal to post this copyrighted PDF on any website. Nocturia Caused by Expired Escitalopram

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**N** octuria can occur with the use of selective serotonin reuptake inhibitors (SSRIs) and may be observed in depression and anxiety as well.<sup>1,2</sup> In one study,<sup>3</sup> while a 2-way relationship between depression and nocturia was found, the relationship between anxiety and nocturia was less clear. Urologic symptoms such as nocturia are associated with a more exaggerated perception of somatic symptoms, especially in depression.<sup>4</sup> The expiration date is the last day the manufacturer guarantees a drug's full effectiveness and safety. Although it is stated that the effectiveness of expired drugs continues, the safety and efficacy range is not clearly known.<sup>5</sup> In this report, a case of nocturia caused by expired escitalopram in a patient with depressive symptoms is discussed.

## **Case Report**

A 42-year-old woman, due to complaints of anhedonia, malaise, lack of energy, quick temper, and insomnia for the past 3 months, started taking escitalopram 5 mg/d for 3 days and then 10 mg/d. She had previously taken and benefited from escitalopram. Three days after starting the drug, after increasing the dose to 10 mg, the patient described abrupt awakening to urinate at night (nocturia). While she had no nocturia-like complaints before, she had an average of 3 nocturia complaints per night for the past 3 days. The patient presented to the outpatient clinic, thinking her complaint was drug related.

It was learned from the patient's history that she had taken medications such as escitalopram and fluoxetine in the past and had benefited but experienced no side effects. In addition, she reported no additional medical conditions. Except for the recent nocturia, she had no dysuria, fever, abdominal pain, or polyuria. Urinalysis, blood count, thyroid hormone panel, and biochemistry values were checked in the hospital emergency department. The patient had no pathology in her laboratory reports and was consulted by the internal medicine specialist. Abdominal ultrasonography was performed. No additional pathology was detected.

We checked the expiration date of the drug that the patient had been taking. It was observed that the drug expiration date was 8 months ago. She was advised to stop taking the medication. The patient had no nocturia after stopping the expired batch of the drug. With the diagnosis of depressive disorder, the patient was started on escitalopram again for her current complaints. A new nonexpired escitalopram series was started, and the dose was increased to 10 mg 3 days later, but no nocturia-like side effects were observed at follow-up.

# Discussion

Side effects such as incontinence, urinary retention, and sexual dysfunction can be considered genitourinary side effects with SSRIs.<sup>6</sup> Urinary retention due to SSRI use appears to be an infrequent event and is only supported by case reports.<sup>7</sup> In most cases, SSRIs have only been implicated when combined with benzodiazepines or antipsychotics. While these case reports are related explicitly to fluvoxamine, fewer studies are related to fluoxetine.<sup>7</sup>

SSRIs can cause urinary retention by acting on the central voiding tract. Serotonin can increase central sympathetic outflow, leading to urinary storage and inhibiting parasympathetic flow, thereby affecting voiding.<sup>8</sup> Also, serotonin and norepinephrine increase bladder sphincter activation and are used in stress incontinence.<sup>8</sup> Although escitalopram has serotonin activity, in contrast to urinary retention, more than 1 urination at night was observed in the patient presented here. In this case, there may be a relationship between the increase in urinary storage caused by serotonin and frequent urination at night. However, the absence of nocturia with the unexpired form of the same drug indicates that the expired active substance may have caused the side effects. In a study<sup>2</sup> of depressed patients taking SSRIs, nocturnal urination was observed 2 times or more compared to non-SSRI users regardless of gender.

In a study<sup>9</sup> examining the relationship between major depression and nocturia, depression was associated with a 6-fold increase in nocturia in men and a 3-fold increase in women. Possible pathogenetic mechanisms of this relationship have been associated with decreased nocturnal bladder capacity through increased nocturnal diuresis via an impaired 24-hour rhythm of antidiuretic hormone secretion and through central and/or peripheral serotonergic action.<sup>9</sup> In the present case, although there was a presence of depression, the complaint of nocturia regressed with new unexpired escitalopram. It was observed that the new-onset nocturia complaint with a drug that the patient had used before occurred with expired escitalopram, and there was no similar complaint with the new-dated escitalopram. This finding indicates that expired drugs can cause unwanted side effects.

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