Fluoxetine-Induced Acute Urinary Retention in a Child With Depression

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Fluoxetine is a US Food and Drug Administration–approved selective serotonin reuptake inhibitor (SSRI) for major depressive disorder, obsessive-compulsive disorder, panic disorder, bulimia nervosa, premenstrual dysphoric disorder, and bipolar depression. Fluoxetine is also indicated as a safe antidepressant for use in childhood depression.[1] Nevertheless, common adverse effects such as insomnia, nausea, diarrhea, anorexia, dry mouth, headache, drowsiness, anxiety, decreased libido, erectile dysfunction in men, and anorgasmia were reported in adults taking fluoxetine. Although many adverse effects were reported for fluoxetine, urinary retention is quite rare and reported only among adults.[2,3] Moreover, in many cases, concomitant use of other psychotropic medications might be attributable to the observed urinary retention.[4–7] Here, we report a case of acute urinary retention in a pediatric patient following the use of fluoxetine for depression.

Case Report

A 10-year-old girl presented with a 4-month history of intractable body aches and crying spells. Her symptoms were abrupt in onset with no associated stressors or life events. She would often complain of body aches and would cry loudly due to this. She was admitted to hospitals multiple times, and her symptoms were extensively evaluated. As her illness continued unabated, she was referred to the child psychiatry department. It was noted that she had a depressed mood, loss of appetite, and insomnia. She was recently showing decreased interest in pleasurable activities.

We diagnosed the patient with depression and prescribed fluoxetine 10 mg/d and clonazepam 0.25 mg/d. Her body aches improved significantly in a week. Fluoxetine was increased to 12 mg/d and clonazepam was stopped during her second visit. After 2 weeks of the dose increase, she developed acute urinary retention 3 times and was catheterized in emergency settings in each instance. She underwent urodynamic studies and a urinary ultrasonogram, both of which were found to be within normal limits with no evidence of structural or functional deficits. We discontinued fluoxetine at her next visit, and she had no urinary retention thereafter. We started escitalopram 5 mg/d the next week, and her depressive symptoms subsided in a month.

Discussion

The temporal association between dose hike and urinary retention points to the causal role of fluoxetine in eliciting this adverse drug reaction. Also, symptoms improved once fluoxetine was stopped. A score of 7 using the Naranjo algorithm[8] also indicates a probable adverse reaction due to fluoxetine in this case. The slow elimination of fluoxetine (elimination half-life of 1–4 days) and its active metabolite norfluoxetine (elimination half-life of 7–15 days) may contribute to its accumulation, resulting in adverse effects.[9] To the best of our knowledge, there have been only 2 reported cases of urinary retention specifically attributed to fluoxetine monotherapy.[2,10] Acute urinary retention is a rare side effect of SSRIs. Elderly, pregnant, and postpartum women are more prone to it.[3] In most of the cases, the offending drugs were sertraline and escitalopram. Urinary retention due to SSRIs is very rare among children. This may explain why despite recurrent urinary retention and catheterization, treating physicians in our case did not consider fluoxetine as the offending agent and discontinue it.

Serotonin is involved in the central control of micturition and urine storage by activating the sympathetic pathway and inhibiting the parasympathetic voiding pathway. Onuf's nucleus, in the S2-4 sacral region of the spinal cord, which regulates the external urethral sphincter striatal muscle activity, expresses 5-hydroxytryptamine (5-HT) receptors. Thus, SSRIs might affect serotonin signaling in the Onuf's nucleus, eliciting the guarding reflex and resulting in urinary retention.[3] Moreover, the mild anticholinergic effect of SSRIs may also contribute to urinary retention.[11] Although fluoxetine is safe in children, this report indicates the need to be cautious while increasing the dose. Doctors in emergency medicine should know that fluoxetine may be a cause of acute urinary retention in children.

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