CASE REPORT

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Urinary Incontinence by the use of Sertralin in Child: A Case Report

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The selective serotonin reuptake inhibitor of sertraline is frequently used for many psychiatric disorders, led by depression in children and adolescents. Effects of this medication, with relatively low side effect profile, on the urinary system are very rare with a low number of case reports in the literature. In this case report, a thirteen-year old patient using sertraline for obsessive compulsive disorder who developed urinary incontinence due to this medication is explained.

Key Words: *Urinary, incontinence, sertralin, enueresis*

Çocukta Sertalin Kullanımına Bağlı Üriner İnkontinans: Bir Olgu Sunumu

Selektif serotonin geri alım inhibitörlerinden biri olan sertralin, çocuk ve ergenlerde depresyon başta olmak üzere birçok psikiyatrik bozuklukta sıklıkla kullanılmaktadır. Yan etki profili görece düşük olan bu ilacın üriner sistem üzerine olan etkileri oldukça nadir olup literatürde az sayıda olgu bildirilmiştir. Bu olgu sunumunda, obsesif kompulsif bozukluk nedeniyle sertralin kullanan on üç yaşındaki bir hastada ilacın neden olduğu üriner inkontinanstan söz edilmiştir.

Anahtar Kelimeler: *Üriner, inkontinans, sertralin, enürezis*

Introduction

Urinary incontinence (UI) is defined as ‘unwanted urinary discharge or inability to hold urine causing social or hygienic problems and objectively observed’. Later this definition was expanded to ‘all types of complaints related to inability to hold urine’ (1). Studies about the etiology of UI have not definitely determined potential risk factors, but age, lower urinary tract pathologies, neurological diseases, prostatectomy, medications, cognitive disorders and other causes are blamed (2). When the literature is reviewed, it appears pharmacological agents have an important place in incontinence etiology. The most commonly blamed medications in relation to this topic are diuretics, anticholinergics, antipsychotics, antiparkinsonian medications, antihistamines, narcotic analgesics and antidepressants (3). Of these agents, the correlation of especially antipsychotic medications and selective serotonin reuptake inhibitors (SSRI) with UR is notable (4). UI is rarely observed after use of psychopharmacological agents; however, it is an important side effect that may lead to cessation of treatment.

Though there is no full consensus about terminology, when urinary incontinence is examined as a symptom, it may be classified as stress incontinence, urge incontinence, mixed incontinence, enuresis, total incontinence and overflow incontinence (1). In the literature there are a few case reports reporting incontinence related to SSRI in adults (4-6). To our knowledge, there are three nocturnal enuresis cases related to citalopram, sertraline and fluvoxamine in children, one enuresis case after sertraline use and one adolescent enuresis case related to paroxetine (7-9).

This article discusses UI caused by medication in a thirteen-year-old patient beginning sertraline for obsessive compulsive disorder (OCD) diagnosis.

Case Report

A thirteen-year-old male patient attended our clinic accompanied by his mother due to thoughts about transmission and suspicions, repetition and touch obsessions dominantly related to religion, sex and hygiene. History revealed the patient’s complaints had begun nearly 3 months earlier and continuously increased, they had attended an external center but did not regularly attend planned therapy sessions and had not received pharmacological treatment during this period. Earlier history included attendance at our clinic due to hyperactivity, obsessive thoughts and repeated behaviors at 6 years old, low dose fluoxetine treatment began; however, due to disinhibition side effects they did not continue medication treatment and later did not attend regular check-ups. The patient’s developmental stages progressed in accordance with age and toilet training was at the usual age; however, history included primary nocturnal enuresis continuing until 10 years of age though the problem did not continue for the last 3 years. Family history included the mother having obsessive

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personality traits and panic attacks, while the father had enuresis in childhood. Psychiatric examination found physical development in accordance with age, clothes were attentively worn and suitable for the socioeconomic status of the family, posture was slightly kyphotic, open, oriented and cooperative consciousness, anxious mood, obsessions in thought content, and normal judgements and insight. The patient had OCD diagnosis made according to DSM-5. Treatment was planned as cognitive behavioral therapy (CBT) and sertraline 25 mg/day. During an interview five days after beginning sertraline treatment, it was learned that the patient had urinary incontinence 1 time at night and 3-4 times during the day. With no improvement of this complaint on weekly follow-up, the patient consulted the urology clinic. Urologic examination found normal tests related to organic etiology and the patient was referred back to us. To see whether this was a side effect linked to medication use and due to clear degree of disrupted functioning, sertraline was stopped. With clear reduction within one week, the patient's urinary incontinence completely resolved within ten days. Later the patient continued CBT and additional fluoxetine 5 mg/day was added. Check-up one week later increased this to 10 mg/day. The patient continues with the treatment process and urinary incontinence has not recurred.

Discussion

In this case report the development of incontinence within one week after beginning sertraline and resolution after medication change leads to consideration of a causative relationship between sertraline and UI.

Sertraline is one of the agents used as first choice for treatment of many psychopathologies led by depression due to relatively reliable side effect profile in children and adolescents. Serotonin plays a very important role in control of the bladder through central and peripheral mechanisms. Increased activity in the serotonergic system inhibits the parasympathetic pathway, easing storage of urine (10). Through this mechanism pathway and specifically SSRIs are stated to have antienuretic effect on central presynaptic 5-HT1A and peripheral 5-HT3 receptors (11). This antienuretic effect is reported for fluoxetine, sertraline, paroxetine and fluvoxamine (12-16). However, in addition to the antienuretic effect of SSRIs, some cases are observed where, contrary to expected, SSRI use caused incontinence (7).

When cases reported with the SSRIs like sertraline, citalopram, paroxetine and fluvoxamine are examined, the mechanism for the enuretic effect has still not been fully explained. Continence is provided through the α-adrenergic pathway of the bladder sphincter, with acetylcholine released by the cholinergic nerves innervating the detrusor muscle known to affect emptying contractions. Additionally, serotonin ensures modulation through three different serotonin receptor regions (5-HT4, 5-HT7 and 5-HT1A) at nerve endings innervating the bladder muscle (16). Patients treated with 5-HT4 agonists (for example, cisapride) for gastrointestinal system motor functions were observed to have increased frequency of miction (17). Based on these findings, activation of neuronal 5-HT4 receptors in the detrusor muscle was predicted to mediate incontinence (18). Additionally, activation of dopamine receptors occurring through potential dopamine reuptake inhibition with sertraline may suppress urethral sphincter activity and as a result is considered to reduce urethral resistance causing urine leakage symptoms.

Interestingly, urinary incontinence with sertraline use did not continue after fluoxetine use. Pharmacologically, sertraline is known to have some α-adrenergic blockage and dopamine reuptake inhibitor properties that fluoxetine does not have. Additionally, fluoxetine had 5-HT2C agonist effect that sertraline does not have (10). In reality, adrenergic blockage shown with sertraline but not with fluoxetine may cause urinary incontinence by reducing the bladder internal sphincter tonus. These properties may explain why incontinence was only observed with sertraline use.

In the literature, a ten-year old case with OCD and social phobia diagnosis was reported to develop incontinence 2 times per week while using 50 mg/day sertraline for 2 months. Increasing the dose led to increased frequency during the day and night on the third day and sertraline treatment was stopped due to reduced functionality. UI then ended; however, fluoxetine treatment was begun due to continuation of complaints (8). An eight-year old male case with social phobia and major depression diagnosis began sertraline treatment of 25 mg/day and nocturnal enuresis began after the dose was raised to 50 mg/day. After stopping sertraline treatment after a total of 5 weeks, enuresis resolved within 1 week (7). Similarly, in our case, incontinence reduced 1 week after stopping sertraline treatment and was completely resolved within ten days. However, in spite of low dose (25 mg/day) sertraline use by our patient, incontinence occurred within the first week and did not occur in dose-linked manner.

Another notable aspect of our case is the history of primary enuresis nocturna and father's enuresis history in the family. A small number of studies have found previous enuresis history is a risk factor for urinary incontinence, while a study in the adult period found 31.4% of patients with UI had enuresis history in the childhood period (19). Another study investigating 1333 female patients with mean age of 48 years found women with history of enuresis in the childhood period reported more frequent urge symptoms and urinary leakage (20). In our case, the enuresis history may have created a tendency toward urinary incontinence.

In conclusion, UI is an important problem affecting the patient, their family and surroundings. Considering the effects on quality of life of patients in the presence of UI, we think it is beneficial to report our case in terms of clinicians being aware of this side effect in order to increase treatment compliance of patients.

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