Olanzapine as a Cause of Urinary Incontinence: A Case Report

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Olanzapine, an atypical antipsychotic, is one of the most commonly used antipsychotics. Though olanzapine is commonly associated with endocrine side effects, it is generally well tolerated by most patients and is rarely associated with urinary incontinence. This report highlights the case of a 23 -year old male patient with schizophrenia who developed severe urinary incontinence following the use of olanzapine. No medications were given to relieve the incontinence contrary to some other studies where ephedrine was used. Olanzapine was changed to trifluoperazine, and the patient's condition improved within two days. Urinary incontinence, though uncommon, is an embarrassing side effect of olanzapine which could negatively affect drug compliance. As such, clinicians should enquire about it in order to improve the patient's health.

Key words: *Antipsychotics, Enuresis, Olanzapine, schizophrenia, Urinary incontinence*

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Olanzapine is an atypical antipsychotic, which has been generally used to control symptoms in major psychiatric illnesses like schizophrenia, and bipolar affective disorder; it has also proven to be effective in managing aggression in patients with dementia (1). In CATIE trial, patients with schizophrenia on olanzapine arm tolerated it very well and had the least rate of patient drop out. (2).

Various side effects of olanzapine have been reported, including drowsiness, unusual tiredness or weakness, restlessness or difficulty sitting still, increased appetite, weight gain, constipation, dry mouth, glucose dysregulation and insulin resistance, dyslipidaemia, and somnambulism (3,4,5). Clozapine, another atypical antipsychotic, has been reported by several authors to cause incontinence (6, 7). There are, however, very few reports of olanzapine-induced urinary incontinence. While some authors reported the side effect among elderly patients with dementia-related psychosis (8),
others concluded that there was a higher prevalence of incontinence among women and not men. (9). In this case report we present the case of a young man with urinary incontinence most likely caused by olanzapine.

Case Report

O.O is a 23-year old male student, who was referred to the hospital with a 4- week history of verbal aggression, irrational behaviour, talking to self, persecutory delusions and poor sleep. There was no history of psychoactive substance use or any chronic medical condition. A diagnosis of paranoid schizophrenia was made after a thorough interview, and he was admitted to the psychiatry ward. He was commenced on intramuscular, and later on oral chlorpromazine. He responded favourably to treatment and was discharged to the outpatient unit after 4 weeks of ward admission. At one of the clinic visits, he complained of lack of penile erection; therefore, chlorpromazine was changed to olanzapine. There was some improvement in his symptoms but he dropped out of treatment for about 15 months, and subsequently suffered a relapse of the illness.

He was re-admitted to the ward and commenced on oral Olanzapine. Five days after commencing Olanzapine, he started having nocturnal enuresis, which in two days progressed to diurnal enuresis. The urinary incontinence was so severe that made the patient to move about in the ward with a bed sheet tied around his waist as he was always soiling his clothes. There was no dysuria, urgency and no previous history of pelvic trauma. There was also no antecedent history of urinary tract symptoms. Neurological examination did not reveal any significant finding; and urine microscopy did not reveal any abnormal growth. Olanzapine was discontinued and he was commenced on trifluoperazine. Within 48 hours after stopping Olanzapine, the urinary incontinence subsided, and completely resolved 72 hours after stopping the

medication. The patient was subsequently discharged following marked improvement in his mental state.

Discussion

In the case presented above, using the adverse drug reaction probability score developed by Naranjo, a score of five was obtained suggesting that the most probable cause of the urinary incontinence was olanzapine (10). This is because the incontinence started after the commencement of olanzapine and symptoms improved shortly after the medications were stopped. Also, the patient was not on any drug that could result in incontinence. Urinary incontinence as a side effect of olanzapine has been also reported by other authors (11,12). In one of the cases, Sagar et al. reported the case of a 35- year old man being managed for mania who developed urinary and bowel incontinence following commencement of 20mg of olanzapine (11). To resolve the problem, the authors simply reduced the dose of olanzapine and later stopped the medication completely (11). This approach was however different from that of other authors who used ephedrine to treat the presumed olanzapine-induced urinary incontinence (12).

The pathophysiology of antipsychotic-induced urinary incontinence remains unclear but various mechanisms have been proposed. One of these mechanisms involves the anticholinergic effect of atypical antipsychotics on the urinary bladder. This effect leads to inhibition of detrusor contraction with consequent overflow of urine (13). The anti-adrenergic activity of these drugs has also been reported to decrease bladder sphincter tone resulting in overflow incontinence (13). This anti-adrenergic activity as a cause of the incontinence has being disputed by Lauterbach et al. They postulated a 5HT2 receptor blockade as the mechanism involved in antipsychotic-induced urinary incontinence (14). Other researchers have however shown that this complication involves central actions. For instance, studies conducted in anaesthetized rats revealed that Olanzapine and risperidone significantly altered several voiding parameters, and decreased the activity of the external urethral sphincter in these rats (15). Contrary to all these mechanisms, a recent report by Saddichha et al. suggested that central dopamino-serotoninergic effects along with peripheral α1-adrenergic blockade act synergistically to cause urinary incontinence (16).

This case report postulates that olanzapine was the probable cause of urinary incontinence in this patient. This side effect, though not life threatening, can be very embarrassing to the patient, which can lead to poor medication compliance and adherence to treatment. As such, clinicians should watch for this side effect and appropriately address it.

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