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Mirtazapine Induced Akathisia:A Case Report

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Abstract

Akathisia is a movement disorder characterized by an inner sense of restlessness and it needs attention because of the increased risk of suicidal behavior. Although akathisia may affect the trunk and arms, it predominantly affects the legs. Akathisia may occur exposure to antipsychotics and antidepressants. Mirtazapine is an antidepressant blocking presynapticα-2adrenergic receptors and 5-hydroxytryptamine (5-HT) 2A/2C, 5 HT 3 and histaminergic postsynaptic receptor. In this single case study, we aimed to present a case of akathisia which occurred after mirtazapine treatment.

Case presentation: A fifty -two-years-old woman presented with a-one-month history of decreased sleep and appetite. She had been using antidepressant medication (Fluoxetine 40 mg / day) for five months due to depressive disorder. Mirtazapine 15 mg/day was added to the patient's treatment. Three hours after the first dosage she could not sit even for few minutes and complained of inner restlessness. She reported feeling anxious. Biochemical tests for metabolic/electrolyte parameters were within reference ranges. She had no neurological disease. Mirtazapine was removed and her symptoms resolved in one day.

She consulted the department of internal medicine. Her physical examination was normal. Biochemical tests for metabolic/electrolyte parameters were within reference ranges. She had no neurological disease. Mirtazapine was removed and her symptoms resolved in one day.

Akathisia is an important side effect because of related to a subjective experience of discomfort that can lead to suicidal behavior. This case illustrates the significant of being alert to any movement disorders in patients treated with mirtazapine.

Keywords: Akathisia, mirtazapine, movement disorder

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Introduction

Akathisia is recorded as "warnings and precautions" occurring in less than 1% of the population prescribed mirtazapine (1). The imbalance between dopaminergic and serotonergic/noradrenergic neurotransmitter systems has been reported as a possible mechanism of akathisia.

Mirtazapine increases noradrenaline and serotonin by blocking noradrenergic alpha 2 receptors, serotonergic 5-HT2 ,5-HT3, blocking H1 receptors (3). It has been hypothesized that the beneficial effects of this drug in akathisia are due to 5HT2A antagonism, and α2 blockade may be responsible for akathisia (4, 5,6).

We aimed to present a case of akathisia that developed after mirtazapine treatment.

Case

A 52-year-old female patient applied to our outpatient clinic with complaints of loss of appetite and insomnia lasting a month. The patient has been using fluoxetine 40 mg/day for about 5 months with the diagnosis of majör depression. Mirtazapine 15 mg/day was added to the patient's treatment because of her complaints. Four days later, the patient came with restlessness in the legs, inner restlessness and a constant desire to walk, which appeared 1-2 hours after the use of mirtazapine. Her complete blood count, liver function tests, kidney function tests, sedimentation, ferritin, iron and iron-binding capacity, thyroid function tests were normal. She did not have any neurological disease and also any chronic disease. The patient reported that she did not have any complaints on the day she did not take the drug. The patient's consent was obtained for this case study.

Discussion

Akathisia is often referred to as a feeling of inner restlessness, but many patients may not be able to describe this feeling unless asked directly, and many confuse this feeling with anxiety (7). Although the exact incidence of antidepressant-induced akathisia is unknown, it is an extrapyramidal system side effect mostly related to antipsychotic use. Drugs that increase the stimulation of serotonergic or noradrenergic receptors in the mesocorticolimbic pathway may be responsible for the induction of akathisia (8). The drugs most commonly associated with movement disorders were mirtazapine, citalopram and paroxetine, while fluoxetine, escitalopram and mianserin were also associated with movement disorders. (9). In the literature, there were case reports on the use of mirtazapine in akathisia, which generally develops after antipsychotic treatment (10). The number of patients who developed akathisia due to the use of mirtazapine is very low.

In a letter to the editor, a 52-years-old male patient who developed akathisia after mirtazapine 30 mg treatment and a 73-year-old female patient who developed akathisia after mirtazapine 30 mg was added (11). In a case report, a 72-year-old patient who developed akathisia after 20 years of mirtazapine use was presented (12). Akathisia was reported in a 42-year-old female patient who switched from fluoxetine 40 mg to 15 mg dose mirtazapine in 2015. (13). In a recent case report, a 30-year-old male patient who developed akathisia after mirtazapine use was presented, and the findings suggested that propranolol treatment was beneficial (14). In our case, akathisia was observed after adding 15 mg/day mirtazapine to the treatment of the patient who has been using fluoxetine for six months.

Although akathisia and restless legs syndrome are often confused, the inner distress and mental restlessness are not seen in restless legs syndrome. In restless legs syndrome, only the desire to move the legs is observed (15). We considered the diagnosis of akathisia because of internal restlessness in addition to the desire to move the legs in our patient.

Lipinski et al. (16) describe the successful use of propranolol ranging from 40 to 90 mg/day to treat five patients with SSRI-induced akathisia. Clonazepam, alprazolam and lorazepam are also used in the treatment of akathisia (17,18). In our case, there was no need for additional treatment, as akathisia regressed the day after the drug was discontinued.

It is stated that akathisia should be considered as an independent risk factor for self-harm and suicide (19). Thus, akathisia is a side effect that should be recognized and intervened.

Conclusion

Mirtazapine-induced akathisia is not very common but is a severe side effect. The most significant risk is to cause a suicide attempt. Although it is used in the treatment of akathisia, it should be kept in mind that mirtazapine may cause akathisia.

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