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Case Report

Extrapyramidal symptoms after Fluoxetine

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Introduction

Extra pyramidal symptoms (EPS) are an uncommon side effect of Selective Serotonin Reuptake Inhibitors (SSRIs).¹ Among the SSRIs, Fluoxetine has been associated with most case reports of EPS,² though other SSRI, particularly, Paroxetine³ and Sertraline has also been reported in certain cases. Most of these reports are from other countries, and relevant searches have not found any case report from India. We present a case of Fluoxetine-induced EPS.

Case report

A 32-year-old male patient presented to the hospital with low mood, reduced interest in recreational activities, lethargy, pessimistic thoughts, easy fatigability, heaviness of head,

reduced sleep, anxiety, paresthesiae of extremities and poor concentration of few months duration. He was diagnosed as Depressive Episode (moderate) and treated with Nortryptiline up to 100 mg/d with adequate response. He was discharged after four weeks of hospitalization. While he was on sick leave for convalescence, he discontinued the drug due to dryness of mouth, dysphoria, constipation and premature ejaculation. When he returned back from leave after a month, he was found to have residual depressive symptoms, and started on Cap Fluoxetine 20 mg/d. He showed satisfactory remission of symptoms and later, discharged twenty days after starting Cap Fluoxetine. He reported to hospital seven days after discharge, with difficulty in speaking fluently, difficulty in opening mouth and swallowing food, especially solids, stiffness of extremities and unable to walk properly since 3 days duration. His colleagues would enquire whether he was drunk during day-time. Symptoms were of insidious onset and progressive. He felt anxious, restless and decided to seek medical help.

General exam and vitals were stable. Neurological exam showed bradykinesia, cog-wheel rigidity of upper limbs, absent arm swing while walking, hyper salivation and slurring of speech, tremors and hypographia. He had no cranial nerve deficits, cerebellar signs or cognitive deficits. Hematological parameters were normal, blood sugar random 104 mg/dl, ECG was normal and MRI scan of brain showed normal study. He was managed by Physician and Psychiatrist. Cap Fluoxetine was stopped considering it as a case of Fluoxetine-induced EPS, and he was started on anti-cholinergics – Trihexyphenidyl 10 mg/d and Benzodiazepines – Clonazepam 2 mg/d. His rigidity, tremors and bradykinesia improved over the next one-week. Emotional distress was better, he was able to open mouth, swallow solids and stiffness of limbs was

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reduced. He was later, placed on Mirtazepine 30 mg/d and discharged after two weeks.

Discussion

EPS are most commonly seen as an adverse effect of anti-psychotics, usually the first generation ones, although several other classes of drugs viz. anticonvulsants, antidepressants, anti-emetics such as Metoclopramide, etc are also associated with the same. Among the antidepressants, both the tricyclic and SSRI group has reports of causing EPS in anecdotal case reports, though more reports are available with SSRIs.⁴ A recent review of literature using FDA AERS (Adverse Event Rating Scale) showed preponderance of EPS with SNRIs (Duloxetine 66%), followed by SSRI and Bupropion. In a review of 71 cases of SSRI-induced EPS, it was found that the most common symptom was akathisia, followed by dystonia, Parkinsonism and tardive dyskinesia-like states. Although no consistent risk factor has been associated with the emergence of EPS, it was found that older age group, females, use of concomitant drugs such as anti-psychotics, neurological illness such as Parkinsonian Disease (PD)⁵ and autistic children⁶ were implicated.

Among the SSRIs, Fluoxetine was the most common to cause EPS. Majority of the side effects occurred within the first month of therapy as it had happened in this case. Research has now established a distinct form of melancholic or endogenous depression with biological underpinnings similar to those of basal ganglia disorders such as PD, which are more often implicated in such cases. The neuro-pathophysiological mechanism for SSRI-induced EPS is still not properly understood, though the stimulation of 5HT_{2A} receptors in basal ganglia may lead to motor movement disorders. Increased serotonin activism has been shown to inhibit both the nigro-striatal and tubero-infundibular dopaminergic neuronal pathways, causing EPS.^{1,7} This has been further confirmed by low levels of Homovanillic acid (HVA) in CSF and increased Serum Prolactin in patients after Fluoxetine-induced EPS. The factors which single out Fluoxetine as common among the SSRIs could be due to its affinity for 5HT_{2C} receptors and risk of accumulation due to long half-lives.⁸

In our case, the emergence of EPS could have been an incidental finding or due to some neurological disorder. Although facilities for Serum Prolactin were not available at this center, and there were no physical signs suggestive of hyper-prolactinemia in our patient. However, the possibility of neurological disorders was ruled out by relevant neuro-imaging studies. His rigidity, tremors and bradykinesia

started showing improvement after stopping Fluoxetine. Hence, a diagnosis of Fluoxetine-induced EPS seemed appropriate in this case.

Conclusion

EPS due to Fluoxetine can be understood as an undesirable action of serotonin in undesirable pathways and receptor subtypes. Recent studies have shown only a moderate association, and for most patients with depression, the benefit of Fluoxetine far outweighs the relatively rare adverse effect. However, one should always keep close observation for emergence of EPS in patients on SSRIs.

Conflicts of interest

All authors have none to declare.

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