Escitalopram induced Tremors- A Rare Side Effect

Richa Amatya[1]

[1]*Department of Psychiatry, Nepal Medicity Hospital, Lalitpur, Nepal*

CORRESPONDENCE

Dr. Richa Amatya
Department of Psychiatry
Nepal Mediciti Hospital
Email: drrichaamatya@gmail.com
Orchid ID: https://orcid.org/0009-0005-8203-8137

ARTICLE INFO
Article History
Submitted: 30 November, 2023
Accepted: 14th January 2024
Published: 8 February , 2024

Source of support: None
Conflict of Interest: None

ABSTRACT

Selective serotonin reuptake inhibitors (SSRIs) which includes escitalopram is used to treat various psychiatric disorders such as depression, anxiety, obsessive compulsive disorder and premenstrual dysphoric disorder. All SSRI's have common pharmacological feature that is selective inhibition of serotonin reuptake. However, it can lead to various side effects among which tremors can occur as a drug induced movement disorder. Here, a case of escitalopram induced tremor has been described in patient who was being treated with the same for anxiety disorder. This case gives an insight on a way to move forward if patients develop tremors upon initiating SSRI to treat their underlying psychiatric condition.

Keywords: Escitalopram; Propranolol; Selective Serotonin Reuptake Inhibitor; Tremors.

INTRODUCTION

Escitalopram is an antidepressant which exerts its effect by selectively inhibiting serotonin reuptake, via inhibition of serotonin transporter. Among the SSRI's, escitalopram is regarded as the best tolerated SSRI and is known to have the lowest CYP-mediated drug interactions.[1] Although seen, movement disorder is considered as one of the less common side effects of antidepressants including SSRI's that include extrapyramidal symptoms such as akathisia, tardive dyskinesia, dystonia, and parkinsonism.

Tremor may resemble essential tremor or parkinsonian tremor, depending upon the offending drug and may involve any body parts.[2,3,4] Among these drug induced movement disorders, tremor is a side effect with an estimated prevalence of 20%.[5] Tremors which are unilateral, task-specific or functional in nature are not consistent with drug-induced tremor.[2] However, the mechanism of antidepressants induced movement disorder is not precisely known. ncreased synaptic serotonin which directly inhibits the dopaminergic neurons via GABAergic interneurons is thought to contribute to the motor side effects.[6,7] A study by Morgan et al, proposed that the tremor is due to over excitation of the red nucleus and the inferior olivary nucleus which projects to the thalamus and the spinal cord.[7] Drugs such as β-blockers, primidone or acetazolamide may be useful to ameliorate drug-induced tremor.[2] Among these, propranolol is a non-selective B-adrenergic receptor antagonist which is most commonly used. [8,9] Initial dose of propranolol is 10mg/day with the therapeutic range between 30 to 320mg/day in divided doses.[9,10]

CASE REPORT

A 25 years old female came to OPD for symptoms of anxiety. She was previously diagnosed with anxiety disorder and was prescribed fluoxetine 10mg per day. She mentioned that she had developed tremors after about 2 to 3 weeks of starting fluoxetine. She was prescribed beta adrenergic receptor antagonist, propranolol, after which the tremors had reduced. Apart from tremors, she had also experienced gastro-

intestinal side effects such as burning sensation in the epigastric region and nausea due to which she had discontinued fluoxetine despite the treatment gain. This time she was started on escitalopram 5mg along with clonazepam for her anxiety symptoms. However, prior to starting escitalopram, physical examination along with routine blood investigations and plain MRI- brain was done to rule out any organic cause. When she came for follow up after 3 weeks, symptoms of anxiety had slightly reduced. However, she complained of tremors of hands which she had noticed while putting her make up on when she had to keep her hands steady. On examination, fine tremor was noted on out stretched hands on both sides. There were no signs of rigidity, slowness of movement, gait disturbances nor development of a mask-like faces. Taking into consideration that, routine blood investigations and brain imaging was normal 3 weeks back, it was not repeated again.

As the patient's anxiety symptoms had slightly improved, rather than changing escitalopram, decision was made to add propranolol to reduce the tremors. This decision was made also on the basis that the tremors which had developed previously after starting fluoxetine, had subsided after starting propranolol. Propranolol was given 20mg twice a day after assuring that her blood pressure and pulse were under normal range. She came for follow up after 3 weeks. She mentioned that her anxiety had markedly reduced and her tremors had completely subsided. Naranjo scale was applied which yielded a score of 5 that indicated a probable adverse reaction to escitalopram. Naranjo adverse drug reaction scale is a 10-item questionnaire that determines the likelihood that an adverse reaction is related to a drug being administered or due to some other factors. This scale was basically designed for studies of new medications including controlled trials rather than for use in routine clinical practice.[11]

DISCUSSION

Several forms of movement disorders have been described in studies as potentially induced by antidepressant use. Akathisia, parkinsonism, bruxism, dystonia, tardive dyskinesia, tics, and tremor are among the few that have been described.[6] Among the antidepressants, association was found between movement disorders and use of SSRI (citalopram, escitalopram, paroxetine, fluoxetine, sertraline, fluvoxamine) along with other antidepressants such as duloxetine, venlafaxine, mirtazapine, vortioxetine, vilazodone, bupropion, amoxapine, phenelzine, clomipramine and mianserin in particular.[6]

Data from a multi-centre drug-surveillance program collected between 1994 and 2016 found that extrapyramidal symptoms (EPS) frequently occurred with SSRIs treatment. Among the SSRI, it was most frequently seen with escitalopram treatment.[12] The above mentioned drug surveillance program showed that EPS occurred at any dosage and was equally seen in men and women both.[12] A literature review using various search engines that included cases reported between July 2005 and March 2008 mentioned that EPS was seen with different classes of antidepressants, were not dose related and was seen to develop with both short-term or long-term use.[13] In our case, patient was female who developed tremors at low dose (5mg Escitalopram) after initial few weeks of drug initiation. A case of 29 years old male, reported by Sertac, described about development of features of Parkinsonism after 2 weeks of initiating escitalopram which subsided completely after starting biperiden.[14] Similarly, in our case tremors subsided upon initiating propranolol. Promptly stopping the offending drug to ameliorate the side effect may be useful. However, in some cases, medications may be required to relieve the symptoms. Studies have shown efficacy of drugs such as beta blockers, primidone, benzodiazepines, gabapentine and topiramate in ameliorating motor side effects.[8] Addition of such medications may not only help reduce the side effects but lessens the need to stop the primary drug and subsequently conserves the treatment gain which is brought about by it.

CONCLUSION

In our case, although low dose of escitalopram caused tremors, it subsided on taking beta-adrenergic drugs. It is to alert the physicians that even low dosage of SSRI can cause motor adverse effects even at initial phase of treatment, which may improve on addition of beta blockers.

REFERENCES

1. Stahl SM. Stahl's Essential Psychopharmacology: Neuroscientific Basis and Practical Applications. 4thd ed. New York: Cambridge University Press; 2013. [PubMed | Full text | DOI]

2. Baizabal-Carvallo JF, Morgan JC. Drug-induced tremor, clinical features, diagnostic approach, and management. J Neurol Sci. 2022; 435:120192. [PubMed | Full text | DOI]

3. Van de Ward J, van der Stouwe AMM, Dirkx M, Elting JWJ,

Post B, Tijssen MA, et al. Systematic clinical approach for diagnosing upper limb tremor. J Neurol Neurosurg Psychiatry. 2020;91(8):822-30. [PubMed|Full text|DOI]

4. Brambilla P, Cipriani A, Hotopf M, Barbui C. Side-effect profile of fluoxetine in comparison with other SSRIs, tricyclic and newer antidepressants: a meta-analysis of clinical trial data. Pharmacopsychiatry. 2005;38(2):69-77. [PubMed|Full text|DOI]

5. Martinez AD, Benassinni O, Ontiveros A, Gonzalez S, Salin R, Basquedano G, et al. A randomized, open-label comparison of venlafaxine and fluoxetine in depressed outpatients. Clin. Ther. 1998; 20(3):467-76. [PubMed|Full text|DOI]

6. Revet A, Montastruc F, Roussin A, Raynaud JP, Mestre ML, Nguyen TTH. Antidepressants and movement disorders: a postmarketing study in the world pharmacovigilance database. BMC Psychiatry. 2020;20:308.[PubMed|Full text|DOI]

7. Morgan JC, Kurek JA, Davis JL, Seth KD. Insights into Pathophysiology from Medication-induced Tremor. Tremor Other Hyperkinet Mov. 2017;7. [PubMed|Full text|DOI]

8. Arbaizar B, Gómez-Acebo I, Llorca J. Postural induced-tremor in psychiatry. Psychiatry Clin Neurosci. 2008;62(6):638-645. [PubMed|Full text|DOI]

9. Grimes DA. Tremor: Easily seen but difficult to describe and treat. Can. J. Neurol. Sci. 2003;30(Suppl. 1):59–63. [PubMed|DOI]

10. Carroll JA, Jefferson JW, Greist JH. Treating tremors induced by lithium. Hosp Community Psychiatry. 1987; 38:1280-88. [PubMed|DOI]

11. Naranjo CA, Busto U, Sellers EM, Sandor P, Ruiz I, Roberts EA, et al. A method for estimating the probability of adverse drug reactions. Clin Pharmacol Ther 1981; 30: 239-45. [PubMed|Full text|DOI]

12. Mörkl S, Seltenreich D, Letmaier M, Bengesser S, Wurm W, Grohmann R, et al. Extrapyramidal reactions following treatment with antidepressants: Results of the AMSP multinational drug surveillance program. World J Biol Psychiatry.2020;21(4):308-16. [PubMed|DOI]

13. Madhusoodanan S, Alexeenko L, Sanders R, Brenner R. Extrapyramidal symptoms associated with antidepressants-a review of the literature and an analysis of spontaneous reports. Ann Clin Psychiatry. 2010;22(3):148-56. [PubMed|Full text]

14. Sertaç Ak, Anıl Yağcıoğlu AE. Escitalopram-induced Parkinsonism. Gen Hosp Psychiatry. 2014;36(1):126.e1-2. [PubMed|Full text|DOI]