Case Report

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Thrombocytopenia due to escitalopram use – A rare case report at the emergency department

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Abstract:

Selective serotonin reuptake inhibitors are commonly used in the treatment of many psychiatric diseases today. Their common side effects consist of gastrointestinal side effects, sexual dysfunction, headache, insomnia, and sedation, whereas hematological side effects have been reported, although rarely. In this article, we presented a case of thrombocytopenia, which is a rare side effect emerging after the escitalopram use, belonging to a 19-year-old female patient who had a generalized anxiety disorder and no hematological history was noted. We aimed to discuss the development mechanism of thrombocytopenia due to the escitalopram use.

Keywords:

Escitalopram, selective serotonin reuptake inhibitor, thrombocytopenia

Introduction

Selective serotonin reuptake inhibitors (SSRIs) are used widely and specifically in the treatment of depression, obsessive-compulsive disorders, generalized anxiety, and phobic disorders, and most of all, the prescribed antidepressants are from the SSRI family. Escitalopram is the second SSRI which has received approval for the treatment of major depression in adolescents, and its primary off-label use is the treatment of various anxiety disorders.[1] Its common side effects are gastrointestinal side effects, sexual dysfunction, headache, insomnia, and sedation. Hematological side effects due to SSRI, such as ecchymosis, gastrointestinal bleeding, hemolytic anemia, hypoprothrombinemia, agranulocytosis and leukopenia have been reported.[2] For this reason, we wanted to present the case of escitalopram-related thrombocytopenia in this study.

Case Report

A 19-year-old female university student presented to the Emergency Department of Health Science University Antalya Training and Research Hospital, Antalya, Turkey, with a complaint of a bruise on her left arm for 2 days. There was no feature in the family that would cause bleeding tendency. It was learned that the patient, who did not have any medication and medical history before, was diagnosed with a generalized anxiety disorder by the psychiatrist approximately a week ago, and her escitalopram treatment was initiated as 10 mg/day for a week. Before the treatment, the patient's hematological results were within normal ranges with a platelet count of 157,000/μL (reference range: 150,000–450,000/μL). Other hematological profiles remained normal after monotherapy for 1 week; however, the platelet count dropped to 29,000/μL in a week.

The inflammatory, liver, and kidney functions of the patient, who had no medical

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conditions or traumatic injuries during the disease period, together with her coagulatory parameters such as prothrombin time and partial prothrombin time were within the normal range. In addition, there was no feature in the family that would cause bleeding tendency. Besides, the patient also had no symptoms of increased bleeding tendency, and her treatment was terminated due to the consideration of thrombocytopenia secondary to the possible side effect of escitalopram.

During the psychiatric follow-ups, alprazolam anxiolytic treatment was initiated. An increase was recorded in the platelet count reaching 122,000/μL in the hematological follow-ups 1 week after the termination of the treatment. At the end of the 1st month, it increased to 162,000/μL and there was a decrease in lesions as well. After the termination of the patient's treatment, there was no incompatibility in her psychiatric symptoms, and her general well-being continued. The platelet count returned to the normal range when the patient was discontinued using only escitalopram and replaced by alprazolam without additional medical treatment (such as steroid or tonic).

Discussion

In the case, lesions appeared with escitalopram but decreased with the termination of the treatment, and other diseases that may lead to thrombocytopenia were excluded in the hematological consultation and follow-ups. The fact that the patient had no history of another drug use eliminated the possibility of thrombocytopenia tendency resulting from other drugs. Even though there is no common opinion about the mechanism through which escitalopram treatment causes thrombocytopenia, according to a theory related to SSRI' blockage of platelet functions over serotonin reuptake, cells stimulated with the SSRI use cannot secrete sufficient serotonin to support the normal aggregation.[3] Previous *in vitro* studies put forward that SSRIs delayed serotonin reuptake in megakaryocytes and platelet production and destruction in the platelet pool; therefore, their effects on platelet functions are seen about 1 week later.[4]

Moreover, it is believed that drugs which have affinity with the surface of platelets can induce immune mechanisms via drug-dependent anti-platelet antibodies, and this can lead to thrombocytopenia secondary to the SSRI use.[5] The complex of antibodies (GPIb/IX, GPV, and GPIIb/IIIa) which recognizes an epitope in the platelet glycoprotein is bound by antidepressants. It is assumed that the decline in the platelet count occurs as a complex result of serotonergic, noradrenergic inhibition and drug-induced immune activation.[6]

It has been shown that the inhibition of the reuptake of 5-hydroxytryptamine, (5-HT) by SSRI decreases the platelet 5-HT levels, and this leads to a decrease in the release of 5-HT from platelets during the activation and reduces platelet aggregation, which possibly increases the risk of a bleeding complication (e.g., gastrointestinal bleeding, ecchymoses, nosebleeds, hematoma, petechiae, and bleeding). When abnormal bleeding is observed during the SSRI treatment, the drug should be discontinued, and treatment without an effect on serotonin reuptake should be initiated.[5-7] Blood parameters should be monitored closely if the SSRI use is considered, especially in patients who have a history of peptic ulcer, thrombocytopenia, a coagulation disorder, and hemophilia and take long-term nonsteroidal anti-inflammatory drugs, anticoagulants, antiplatelets, and corticosteroids. Furthermore, derivatives of antidepressants which do not inhibit serotonin reuptake should be preferred in patients for whom surgery is planned in the near future.[5-8]

As a result, escitalopram is a psychiatric drug which is commonly used today. It should be kept in mind that it may have hematological side effects such as thrombocytopenia.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Carvalho AF, Sharma MS, Brunoni AR, Vieta E, Fava GA. The safety, tolerability and risks associated with the use of newer generation antidepressant drugs: A critical review of the literature. Psychother Psychosom 2016;85:270-88.
2. Quagliato LA, Cosci F, Shader RI, Silberman EK, Starcevic V, Balon R, *et al*. Selective serotonin reuptake inhibitors and benzodiazepines in panic disorder: A meta-analysis of common side effects in acute treatment. J Psychopharmacol 2019;33:1340-51.
3. Song HR, Jung YE, Wang HR, Woo YS, Jun TY, Bahk WM. Platelet count alterations associated with escitalopram, venlafaxine and bupropion in depressive patients. Psychiatry Clin Neurosci 2012;66:457-9.
4. Thornton JD, Agarwal P, Sambamoorthi U. Use of selective-serotonin reuptake inhibitors and platelet aggregation inhibitors among individuals with co-occurring atherosclerotic cardiovascular disease and depression or anxiety. SAGE Open

Med. 2016;14;4:2050312116682255. doi: 10.1177/2050312116682255.
5. Andersohn F, Konzen C, Bronder E, Klimpel A, Garbe E. Citalopram-induced bleeding due to severe thrombocytopenia. Psychosomatics 2009;50:297-8.
6. Kenney B, Stack G. Drug-induced thrombocytopenia. Arch Pathol Lab Med 2009;133:309-14.
7. Skandali N, Rowe JB, Voon V, Deakin JB, Cardinal RN, Cormack F, *et al*. Dissociable effects of acute SSRI (escitalopram) on executive, learning and emotional functions in healthy humans. Neuropsychopharmacology 2018;43:2645-51.
8. Gaspersz R, Lamers F, Kent JM, Beekman AT, Smit JH, van Hemert AM, *et al*. Anxious distress predicts subsequent treatment outcome and side effects in depressed patients starting antidepressant treatment. J Psychiatr Res 2017;84:41-8.