Venlafaxine-Induced Bruising: A Case Report

To the Editor: Selective serotonin reuptake inhibitors (SSRIs) and selective serotonin-norepinephrine reuptake inhibitors (SNRIs) are often used for a number of psychiatric-related conditions such as major depressive disorder and anxiety. One rare, but well documented, adverse reaction includes an increased risk for abnormal bleeding. These bleeding disorders often manifest as upper gastrointestinal tract bleeding, epistaxis, ecchymosis, and spontaneous bruising.[1–3] While there are a number of case reports and observational studies reporting SSRI-induced bleeding, there are a limited amount of studies showing the risk of SNRI-induced bleeding. We report an observed case of venlafaxine-induced bruising.

Case report. Ms A, a 34-year-old woman with a history of depression, posttraumatic stress disorder, and Graves' disease, reported significant bruising for a total of 10 days after starting the SNRI venlafaxine. The patient noticed small bruises, most of which were found on her lower extremities. It was reported that the bruising began after she started venlafaxine and worsened after she was titrated to her maintenance dose of 75 mg daily. She stated that new bruises appeared after playing with her children and that the severity of the old bruises did not change and did not heal. In addition to venlafaxine, she was also taking zolpidem, lorazepam, levothyroxine, and an over-the-counter iron supplement daily. She denied the use of nonsteroidal anti-inflammatory drugs or antiplatelet agents, as well as any medical or family history of blood dyscrasias or platelet disorders.

During Ms A's visit, the reported bruising was confirmed. All laboratory results were within normal range except for her measured sodium level of 133 mmol/L, mean platelet volume of 11.2 fL, and mean corpuscular hemoglobin concentration of 32.7%. Therefore, platelet, iron, thyroid, and liver abnormalities were ruled out.

With the exception of venlafaxine, medications in her regimen were not found to increase her bleeding risk. Furthermore, since the bruising soon occurred after the initiation of venlafaxine, it was suggested that this medication was the causative agent of her symptoms. Ms A consented to a trial of bupropion, and venlafaxine was tapered over a 7-day period.

Four weeks after discontinuing venlafaxine, reexamination revealed resolution of the bruising, but Ms A acknowledged experiencing bothersome side effects with bupropion, including feelings of tachycardia and insomnia. Due to the severity of her symptoms, she stopped bupropion and requested to restart a trial of venlafaxine despite the previous symptoms of bruising.

Outside of its effects in the central nervous system, serotonin (5-hydroxytryptamine, 5-HT) assists with platelet activation and aggregation.[4] Platelets themselves do not synthesize 5-HT but rely on the uptake of 5-HT, via the serotonin transporter, from the blood stream.[5] Once a platelet receives 5-HT, it is stored within the dense granules of the platelet. Upon platelet activation, the stored 5-HT is released with other aggregation factors such as collagen and assists with proper aggregation.[6,7]

Medications that inhibit 5-HT reuptake, such as SSRIs and SNRIs, act as an antagonist of the serotonin transporter necessary to transport 5-HT into the platelet, leading to a lower concentration of 5-HT within the platelet. The decrease in the platelet 5-HT level therefore leads to hemorrhagic complications. Medications with a higher affinity for the serotonin transporter, such as fluoxetine, have been found to have a higher risk of bleeding compared to those with a lower affinity such as venlafaxine.[6,8]

There are 5 individual case reports[9–13] documenting venlafaxine-associated bleeding. Currently, there are no published reports documenting an association between abnormal bleeding and duloxetine and desvenlafaxine. With the increased utilization of SNRIs, more epidemiologic evidence and risk estimation research related to SNRI bleeding may be warranted.

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Potential conflicts of interest: None.

Funding/support: None.

Disclaimer: The views expressed in this letter are those of the authors and do not necessarily reflect the official policy or position of the US Department of Veterans Affairs.

Published online: May 5, 2016.

Prim Care Companion CNS Disord 2016;18(3):doi:10.4088/PCC.15l01886