

WARFARIN-INDUCED BLEEDING DYSCRASIA: A CASE OF BLEEDING IN GUMS, HEMATURIA, AND BRUISES

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Abstract

Background: Warfarin is an oral vitamin K antagonist prescribed to patients for the treatment of venous thromboembolism. Warfarin is associated with a high risk of bleeding in patients, which makes continuous patient monitoring essential. We reported a case of a 53-year-old female patient brought to the hospital with chief complaints of bleeding from gums, hematuria, and bruising over extremities. On taking a medical history and conducting the biochemical investigation, the cause of bleeding was found to be the warfarin drug, which the patient has been taking for cardiac problems. The patient was admitted to the intensive care unit and treated with blood transfusion and other conservative treatment. The patient was discharged successfully with healed gums, bruises, and hematuria. Physicians, clinical pharmacists, nurses, and any health workers should educate the patients about the importance of periodic consultation with clinical practitioners, regular monitoring of PT- INR values, and seeking medical attention if signs and symptoms of bleeding occur.

INTRODUCTION

Atrial fibrillation (AF) carries an increased risk of stroke, and without thromboprophylaxis, stroke risk rises 4% in non-valvular AF cases and 17-18% in valvular AF cases. Anticoagulation lowers the risk of stroke by 64%. Millions of people worldwide have taken warfarin to reduce thromboembolism, and it is the most used anticoagulant in India.^[1] Warfarin is entirely absorbed and reaches its peak one hour after consumption. Warfarin has an estimated 36-hour half-life and is linked to albumin in the blood. The liver converts warfarin into inactive molecules that are subsequently eliminated in the urine.^[2]

Patients on anticoagulant medications have the risk of bleeding, and those taking warfarin need regular monitoring for bleeding dyscrasia. Warfarin users have been reported to experience major bleeding rates that can be fatal, ranging from 0.4 to 7.2 percent, while mild bleeding rates hover around 15.4 percent.^[3] According to research, persons with AF who use warfarin experience significant bleeding on average every year at a rate of between 0.4 and 2.6. Numerous variables, including the degree of anticoagulation and, in certain individuals, associated conditions, including age, hypertension, severe heart illness, and renal insufficiency, have been linked to this risk of bleeding. Bleeding risk outside the central nervous system was found to be 7.3%, and cerebral hemorrhage risk was reported to

be 1.48% in all cases of warfarin-induced bleeding.^[4]

Patients using warfarin should have their international normalized ratio (INR) evaluated on a frequent basis. INR is a key indicator of their risk of bleeding, which is calculated by dividing the patient's prothrombin time by the prothrombin time used as a laboratory control. The INR level that is acceptable for the patient depends on their health. The American College of Chest Physicians recommends an INR level between 2.0 and 3.0 for the majority of ailments; however, individuals with artificial heart valves may need a higher level of INR.^[2]

Patients taking warfarin have a high risk of developing gum bleeding. After heart surgery, patients who combine anticoagulants with antiplatelet medications, such as warfarin and clopidogrel, are more likely to experience persistent and spontaneous gum bleeding. The bleeding typically comes while eating, flossing between teeth, or brushing teeth, although it can sometimes happen spontaneously.^[5] Hematuria is the presence of red blood cells in the urine that could be visible in the change in urine color. The usage of warfarin can induce mucosal bleeding.^[6]

CASE REPORT

The patient was a 53-year-old female who visited the hospital with the chief complaints of bleeding from gums, hematuria, and bruises over bilateral

arms and legs for the past week. The patient was a known case of mechanical valve replacement (MVR) and was on long-term Coumadin therapy. The patient also has a history of RHD, CAD, and hypothyroidism but lacks a history of abdominal pain, diarrhea, angina, hemoptysis, palpation, sweating trauma, fever, or allergies. No significant past medical, personal, occupational, or family history was found. Clinical examination revealed that respiratory rate was 20 per minute, SPO₂ was 96%, pulse rate was 107, blood pressure was 130/80, and body temperature was 97.3 Fahrenheit. Biochemical investigation revealed INR 6.8, PH 7.42, PCO₂ 42.8, sodium 136, potassium 4.1, chloride 110, Hb 7.2, HCO₃ 27 and LAC 3.8. 2D-ECHO revealed normal DVR, LA, and LV systolic function with EF>55%. Prosthetic mitral valve functioning, with a mean gradient of 4 mm Hg. Prosthetic AV functioning as well, with a gradient of 13/8 mm Hg. A mild TR/PASP of 25 mm Hg was observed. USG scan revealed grade I fatty liver and simple left renal cortical cyst.

The patient was admitted to the intensive care unit (ICU) because of the complaints mentioned above. Warfarin was immediately stopped, and a 10-mg intravenous Vitamin K injection was administered, followed by a transfusion of six units of fresh frozen plasma and three units of packed red blood cells during the course of admission. The patient was managed conservatively with other supportive treatments. Hematuria stopped, and the patient was shifted to the general ward following three days stay at ICU. Cardiology and urology consultation was taken, and the patient was discharged after one week upon healing gums, bruises, and hematuria. At the time of discharge, the INR was 3.0.

DISCUSSION

A common anticoagulant made of coumarins, warfarin is used both therapeutically and preventatively. Despite being a drug that can save lives, it is linked to several negative side effects. The most significant adverse effect associated with warfarin is spontaneous subcutaneous or intramuscular bleeding; nevertheless, warfarin may also cause intraabdominal bleeding.^[7] Ozturk et al. analyze the bleeding complications in warfarin-treated patients admitted to the emergency department. Of 96 patients, 33.3% had experienced major or minor bleeding events.^[8] The present case report highlights a case of warfarin-induced bleeding dyscrasia.

The patient in the present case report was a 53-year-old female. It has been observed that warfarin-induced bleeding is usually reported in elderly cases with a high predominance of males. Previously, Shivakrishna and Mankulangara et al,^[9] reported a case of warfarin-induced upper gastrointestinal bleeding in an 80-year-old male on anticoagulation therapy for paroxysmal atrial fibrillation. Abraham

et al. reported a case of a 40-year-old female with warfarin-induced abnormal uterine bleeding.^[10] Kunal et al. reported a case of a 27-year-old male with warfarin-induced diffuse alveolar hemorrhage.^[11]

The present study was unique in highlighting a case of gum bleeding and hematuria due to warfarin-induced toxicity. Previously, Khan et al,^[12] and Darby,^[5] highlighted that patients on anticoagulation therapy, especially warfarin, can develop gum bleeding and hematuria which supports the findings of the present study. Patel et al. reported an 80-year-old male case of warfarin-induced hematuria,^[6] supporting the present case study.

The bleeding site was variable in different case reports, but patients in most of the case reports were taking warfarin due to cardiac complications. Mathew et al. reported a case of a 61-year-old male with warfarin-induced gastrointestinal bleeding with Known history of Rheumatic heart disease and mitral valve replacement.^[7] Similarly, in the present case report, the patient was a known case of mechanical valve replacement.

Nazarian et al. reported a case of warfarin-induced skin necrosis in a 52-year-old female who was prescribed warfarin and enoxaparin for a newly diagnosed deep vein thrombosis (DVT) in the left lower extremity.^[13] In the present case also, bruises over bilateral arms and legs were observed.

Although less extensively studied, thyroid hormone has an impact on the coagulation system. According to various studies, the hemostatic system becomes more hyperfibrinolytic and hypercoagulable when thyroid hormone levels are low.^[10] In the present case also, the patient was a known case of hypothyroidism.

Treatment protocol for bleeding dyscrasia usually involves the administration of vitamin K in patients. In the case reported by Nazarian et al,^[13] and Khan et al,^[12] the patient was administered vitamin K intravenously and fresh frozen plasma to reverse the effects of warfarin. Similarly, a 10-mg intravenous Vitamin K injection was administered in the present case, followed by a transfusion of six units of fresh frozen plasma and three units of packed red blood cells.

Warfarin users should know the dangers of using additional prescribed or over-the-counter medications, herbal remedies, and certain foods without consulting a physician. Patient education, excellent compliance, and communication with the patient and those in charge of their clinical care are all essential for effective and safe anticoagulation. Because biological responses to therapy vary widely and many people are engaged in patient care, there is a high potential for an adverse event associated with warfarin. Simple prediction techniques and monitoring procedures based on patient characteristics, therapy intensity, and duration can lower the risk of warfarin-related bleeding.

CONCLUSION

Warfarin is frequently used to prevent thromboembolic events in individuals at risk for heart attack and stroke. Patients must be regularly examined to detect any potential side effects of the medication because the level of anticoagulation varies from patient to patient and is influenced by various variables. Bleeding associated with warfarin use is an uncommon complication and an important cause of mortality. Physicians, clinical pharmacists, nurses, and any health workers should educate the patients about the importance of periodic consultation with clinical practitioners, regular monitoring of PT- INR values, and seeking medical attention if signs and symptoms of bleeding occur. A Medication Guide or leaflet can be provided to patients on oral anticoagulant therapy and high-risk medications. In order to distinguish between low- and high-risk patient groups and to convince patients in the low-risk group that they are unlikely to experience substantial bleeding issues, a variety of risk stratification tools need to be created that can be used in daily clinical settings.

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