

CASE REPORT

Superficial Thrombophlebitis of Great Saphenous Vein Following Vaccine

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Abstract

This paper reports on the occurrence of thrombosis of the left great saphenous vein (GSV) soon after being given the AstraZeneca vaccine and two recurrent events within three days after the suspension of the anticoagulant. A 53-year-old patient had superficial thrombophlebitis of the GSV in the left leg three days after taking the second dose of the AstraZeneca vaccine for COVID-19 and initiated treatment with rivaroxaban (Xarelto™) 15 mg twice a day, subsequently increasing to 20 mg. After 45 days, the patient contracted dengue and stopped taking the anticoagulant. Two days later, the patient had another thrombosis in the left GSV. The patient is currently in outpatient care with a prophylactic dose of 10mg/day of anticoagulant and undergoes evaluations at three-month intervals. The result of our study is a rare event. (**International Journal of Biomedicine. 2024;14(2):357-358.**)

Keywords: superficial thrombophlebitis • great saphenous vein • vaccine

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Introduction

The vaccine, developed by Johnson and Johnson for SARS-CoV-2, has been related to more specific cases of thrombosis associated with low platelet levels similar to those found in heparin-induced thrombocytopenia.⁽¹⁾ A study by A. Mani and V. Ojha found that venous thrombosis was more frequent than arterial thrombosis and that a large portion of patients had thrombocytopenia (49%) and anti-platelet factor 4 antibodies (78.6%).⁽²⁾

Another study reported two cases of superficial venous thrombosis, suggesting that this may be another adverse effect to add to the list of events associated with the ChAdOx1 nCoV-19 vaccine.⁽³⁾ Another report describes portal vein and right common iliac vein thrombosis in a 36-year-old woman two weeks after receiving the first dose of the AstraZeneca vaccine.⁽⁴⁾ The cumulative incidence of any thrombotic event within 30 days after receiving the vaccine was 12 per 10,000 in the COVID-19 group and six per 10,000 in the influenza group ($P=0.022$).⁽⁵⁾ Venous thrombosis has not been associated with COVID-19 vaccines in the literature. Therefore, the occurrence is rare.

This paper reports on the occurrence of thrombosis of the left great saphenous vein (GSV) soon after being given the AstraZeneca vaccine and two recurrent events within three days after the suspension of the anticoagulant.

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Case Presentation

A 53-year-old patient had superficial thrombophlebitis of the GSV in the left leg three days after taking the second dose of the AstraZeneca vaccine for COVID-19 and initiated treatment with rivaroxaban (Xarelto™) 15 mg twice a day, subsequently increasing to 20 mg. After 45 days, the patient contracted dengue and stopped taking the anticoagulant. Two days later, the patient had another thrombosis in the left GSV. The laboratory exams revealed normal platelets and coagulation, and the patient began taking the anticoagulant again. After 24 days, the patient stopped taking the anticoagulant because she was going to be submitted to surgery. Three days later, the third thrombotic event occurred in the GSV. Rivaroxaban was initiated again twice a day at a dose of 15 mg, which was subsequently increased to 20 mg. The patient had no family history of thrombotic events. Screening for neoplasm (chest x-ray, endoscopy, and ultrasound of the abdomen) was negative. Screening for antiphospholipid antibodies was negative. The patient is currently in outpatient care with a prophylactic dose of 10 mg/day of anticoagulant and undergoes evaluations at three-month intervals.

Discussion

The present study reports a case of GSV thrombosis three days after receiving the AstraZeneca vaccine, for which anticoagulant therapy was initiated with rivaroxaban. After 45 days, the anticoagulant was suspended because the patient contracted dengue. Two days later, thrombosis recurred in the same vein and the anticoagulant was reinitiated. After 25 days, the medication was suspended, and another episode of thrombosis occurred in the same vein. The literature reports cases of superficial venous thrombosis as a possible consequence of the ChAdOx1 nCoV-19 vaccine,⁽³⁾ but no cases of recurrent thrombosis. Hence, the result of our study is a rare event. The patient had two episodes of recurrent thrombosis soon after going off the anticoagulant, suggesting the maintenance of a state of hypercoagulability. This raises the issue as to when anticoagulant therapy can be safely suspended. The decision was made to use a prophylactic dose of rivaroxaban to reduce the possibility of bleeding and ensure prophylactic protection. The patient did not have a family history of thrombotic events, did not present thrombocytopenia, and screening was negative for both antiphospholipid antibodies and neoplasm.

The literature reports atypical thrombotic events in patients with COVID-19,⁽⁶⁻⁸⁾ but no cases of recurrent thrombosis. Venous thrombosis and thromboembolism are reported more often. Recurrent thrombosis almost immediately after suspending anticoagulant therapy is the most striking aspect in the present case.

In conclusion, this paper reports the occurrence of GSV thrombophlebitis, the possible cause of which was the AstraZeneca vaccine, and recurring thrombosis after the suspension of anticoagulant therapy.

Competing Interests

The authors declare that they have no competing interests.

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