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Physicians must be aware of potential VITT after SARS-CoV-2 adenoviral vector vaccines

All doctors should consider vaccine-induced immune thrombotic thrombocytopenia (VITT) in a patient who develops blood clots and low platelets after receiving a first dose of the ChAdOx1 nCoV-19 (Oxford-AstraZeneca) vaccine, physicians write in a case study in CMAJ (Canadian Medical Association Journal).

VIEW ARTICLE

The authors describe the case of a 63-year-old man who developed VITT after receiving his first dose of the ChAdOx1 nCoV-19 vaccine. His symptoms began 20 days after receiving it. He presented to an emergency department with thrombocytopenia (low blood platelets) and extensive thrombosis (blood clots) in his leg and lungs. The patient required emergency vascular surgery.

“We suspected vaccine-induced immune thrombotic thrombocytopenia (VITT) based on ongoing postoperative bleeding, new digital thrombosis and thrombocytopenia,” writes Dr. Paul Petrasek, a vascular surgeon at the Peter Lougheed Centre and the Cumming School of Medicine, University of Calgary, with coauthors.

The case report summarizes the latest approach to the diagnosis and treatment of VITT and explains the current understanding of how VITT can cause life- or limb-threatening thrombosis. It adds to a growing body of literature recognizing that VITT can occur in men and women of any age, rather than only in younger women, as thought initially. The authors indicate that most cases of VITT have been described in patients who received the ChAdOx1 nCoV-19 vaccine, but a smaller number have been reported in patients who received the Ad26 CoV2.S (Johnson & Johnson-Janssen) vaccine.

A related commentary provides additional guidance on how to detect and treat VITT, and emphasizes vigilance, the importance of treating as soon as the presumptive
diagnosis of VITT is made and the need for clinicians to be aware of which confirmatory tests to order. The authors indicate that the current best estimate of the frequency of VITT after the first dose of the ChAdOx1 nCoV-19 vaccine is between 1 in 26,000 and 1 in 127,000. No case of VITT has been reported after receiving an mRNA vaccine.

“Given the serious clinical consequences of VITT, clinicians must maintain a high index of suspicion for VITT in patients presenting with symptoms suggestive of thrombosis in any vessel within 30 days of administration of an adenoviral vector SARS-CoV-2 vaccine, despite its low incidence,” writes Dr. Michelle Sholzberg, a hematologist at St. Michael’s Hospital, Unity Health Toronto, and the University of Toronto, with coauthors.

Symptoms of VITT can include severe and persistent headache; blurred or double vision; weakness on one side or change in sensation; chest, abdominal, leg or back pain; leg swelling; and shortness of breath.

“Early diagnosis is more likely if clinicians inquire about the type and timing of SARS-CoV-2 vaccination as part of standard history taking. Clinicians should seek expert consultation early and consider transfer to a centre that can provide critical care and specialized immunohematology care,” the authors write.

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