Guidance for the Management of Symptomatic Persons who have Received a Viral Vector COVID-19 Vaccine

Alberta Health Services

Background

This document is intended to assist AHS staff in the diagnosis and management of Vaccine-induced Immune Thrombotic Thrombocytopenia (VITT).

Health practitioners are urged to be on alert for possible cases of thromboembolism, disseminated intravascular coagulopathy (DIC) or cerebral venous sinus thrombosis (CVST) occurring within 4 to 28 days after receiving a viral vector COVID-19 vaccine (AstraZeneca/COVISHIELD or Janssen/Johnson & Johnson), in association with a low platelet count.

Treatment for this condition requires specialized medical attention, and an urgent hematology consult should be initiated if a patient has a clinical presentation compatible with the possibility of thrombosis and thrombocytopenia in the 4 to 28 day period after receiving a viral vector COVID-19 vaccine.

Advice for Patients

Health practitioners should inform their patients/clients to seek immediate medical attention for symptoms of thromboembolism and thrombocytopenia particularly with onset 4 to 28 days after immunization with a viral vector COVID-19 vaccine. These can include: new and/or severe headaches; shortness of breath or chest pain; pain in the abdomen; a painful, cold numb extremity; or easy bruising or bleeding.

Patients are provided an aftercare sheet at their AHS immunization appointment advising them to seek urgent medical care if they do have any of these symptoms.

When to Suspect VITT

Patients presenting with the following symptoms should be asked about their vaccine history:
- a persistent and severe headache
- focal neurological symptoms or visual changes, including blurred or double vision, or episodes suspicious for seizure
- shortness of breath
- abdominal or chest pain
- swelling, pain and/or redness in a limb
- pallor and coldness in a limb
- unusual bleeding, multiple small bruises, reddish or purplish spots or blood blisters under the skin

If their immunization falls within 4 to 28 days prior to symptoms, in a patient with any of the above they should be evaluated as soon as possible for VITT in addition to other potential etiologies.

Clinical work-up for possible VITT cases

For those with the above symptoms 4 to 28 days after immunization:
1) A complete blood count (CBC) and D-dimer should be drawn immediately.
   - Patients who are assessed in an outpatient setting with low platelets ($<150 \times 10^9$/L) should be sent urgently to an Emergency Department for further assessment.
   - If the platelet count is $>150 \times 10^9$/L and the patient has a normal D-dimer, this is unlikely to be VITT. As other potentially serious conditions may present with similar symptoms, clinicians should proceed to workup and manage these conditions as clinically indicated.

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- All discharged patients should be provided with discharge precautions and directions regarding follow-up. They also should be advised to return promptly for a reassessment if symptoms worsen.
- If the platelet count is >150 x 10^9/L and the patient has an abnormal D-dimer, or there is particular clinical suspicion for VITT, the patient should be advised to return for repeat bloodwork within 24 hours.

2) If the patient presents with a persistent and severe headache, nausea/vomiting, visual changes, focal neurological deficits or episodes suspicious for seizures, dedicated cerebral venous imaging is appropriate.
   - A non-contrast CT head may be ordered in patients with normal lab results (i.e. low suspicion of VITT).
   - In clients with additional clinical suspicion (i.e. symptoms and abnormal blood work) contrast enhanced CT cerebral venography OR MR venography should be ordered on an emergent basis.
   - Some clients may not have a visible clot on initial imaging. Repeat imaging may be indicated if clinical suspicion for VITT is high.

3) Contact Hematology/Thrombosis Expert via ROCA/RAAPID. Transfer of the patient to a tertiary care site for further assessment and treatment may also be indicated.

4) The consultant will order additional tests that are needed to confirm a diagnosis of VITT.
   - Refer to Specimen requirements for investigation of COVID-19 Vaccine-Induced Immune Thrombotic Thrombocytopenia (VITT)

Reporting

If VITT is suspected post-immunization, it **MUST** be reported as soon as possible by completing and submitting the Adverse Event Following Immunization (AEFI) report form. If you are unable to complete the electronic form, call 1-855-444-2324 (1-855-444-CDCI). More information about AEFI is available here.

Diagnosis

A low platelet count and the presence of a blood clot on diagnostic imaging, makes the diagnosis of VITT presumptive. The confirmatory diagnosis of VITT is made by testing for Heparin-Induced Thrombocytopenia (HIT).

HIT testing in Alberta is managed by the Special Coagulation Testing Labs in Edmonton and Calgary, and confirmatory testing (Serotonin Release Assay) is completed at McMaster.

Treating Patients with Presumptive or Confirmed VITT

Patients with presumptive VITT must be treated in consultation with a hematologist. Confirmatory test results are not required in order to initiate treatment. The following may be recommended:
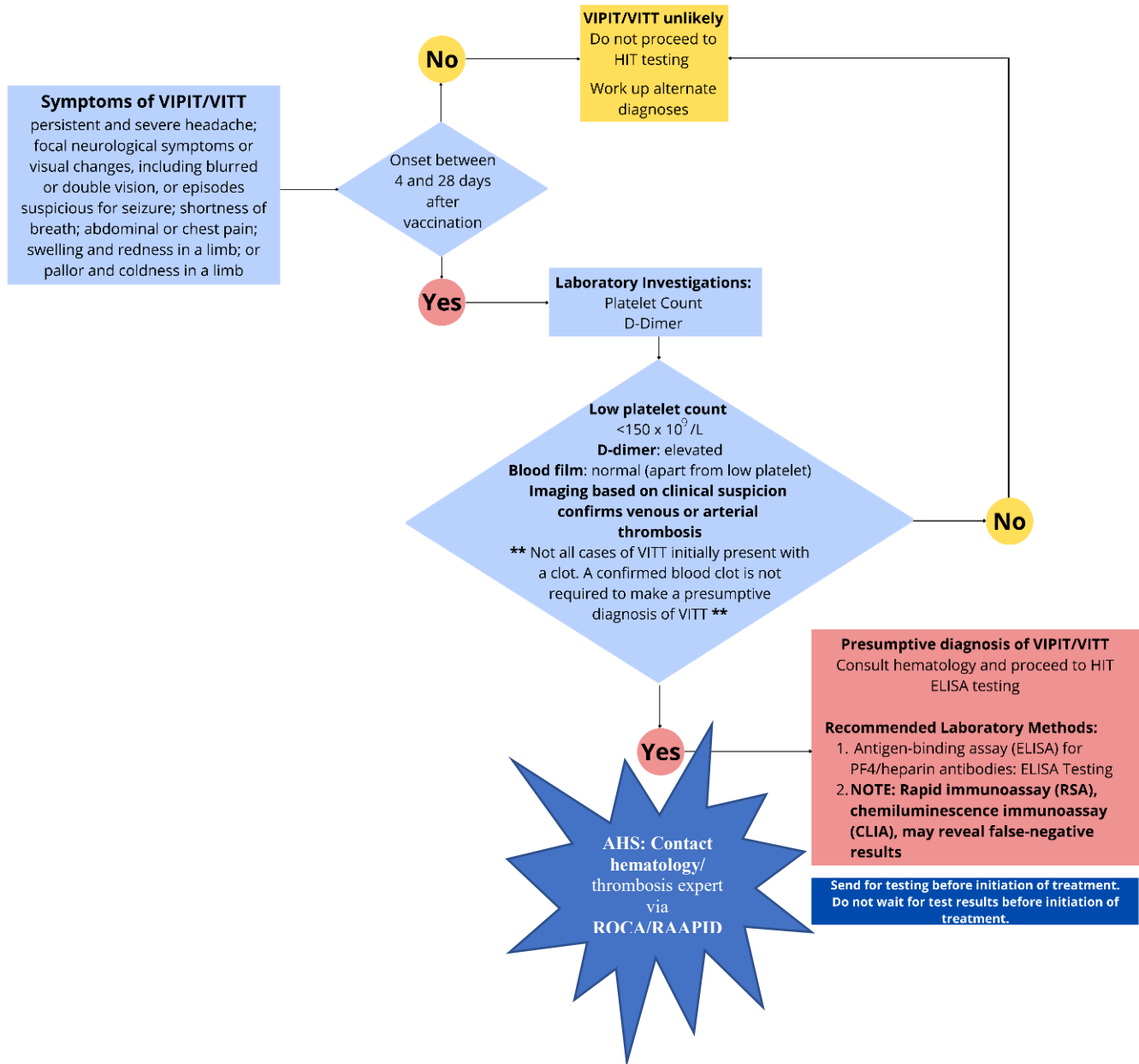- First line anticoagulants: direct oral factor Xa inhibitors (e.g., rivaroxaban, apixaban, edoxaban) or direct thrombin inhibitor (e.g. argatroban)
- IVIG 1g/kg daily for at least 2 days
- Heparin, low molecular weight heparin and platelet transfusions should be avoided
- Other treatment modalities may be required including steroids and plasmapheresis

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Where to go for Further Information

For further information on managing VITT, please see this guidance from Thrombosis Canada and the Ontario Science Table.

Figure 1. Decision Tree for Diagnosing and Ruling out VITT

Source: Thrombosis Canada, Adapted from Ontario's COVID-19 Science Advisory Table

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