THANZ Multidisciplinary† VITT Guideline for Doctors

Background

A severe prothrombotic syndrome associated with thrombocytopenia has been described in a small number of patients exposed to the COVID-19 AstraZeneca and Janssen (Johnson & Johnson) vaccines. This syndrome is currently being called several names: VITT (vaccine-induced immune thrombotic thrombocytopenia syndrome), TTS (thrombosis with thrombocytopenia syndrome), and VIPIT (vaccine-induced prothrombotic immunethrombocytopenia). For the purposes of this Thrombosis & Haemostasis society of Australia New Zealand (THANZ) Multidisciplinary guideline, the term VITT will be used. It has been observed in early reported cases that platelet transfusions and administration of heparin may lead to progressive thrombosis.

What causes this syndrome?

The exact pathophysiology of the syndrome is still unknown however, the majority of cases are associated with the presence of pathological antibodies against platelet factor 4 (PF4) or PF4/polyanion complexes. These antibodies are only detectable by specific ELISA methods in specialized laboratories.

When should I suspect VITT?

- Onset of symptoms 4 – 42 days after vaccination, AND
- Thrombosis – cerebral venous sinuses, splanchnic vein; DVT/PE or arterial thrombosis; AND
- Thrombocytopenia (<150 x 10^9), AND
- High d-dimer (typically > 5 x ULN)

Patient presents with acute onset symptoms/signs of thrombosis or thrombocytopenia* **and** received AZ or Janssen (JJ) COVID-19 vaccine in last 4 – 42 days

Clinical judgement should be exercised as to whether patients should be referred to ED at this point in time

DO NOT give heparin or LMWH

Obtain URGENT FBC, APTT, PT, fibrinogen and D-dimer within 4-hours

D-dimer ≥ 5 x upper limit of normal (ULN) **and** platelets < 150 x 10^9/L

D-dimer ≥ 5 x ULN **and** normal platelets

D-dimer < 5 x ULN

VITT Suspected

- Organise URGENT imaging^ according to symptom site
- Collect and send samples for VITT testing#
- These investigations to be performed in ED rather than in the community

If symptoms persist and/or Platelets < 150

VITT Not Excluded

- Repeat FBC within 24-hours as platelet counts can drop within 4-6 hours in VITT
- Clinical judgement regarding need for further diagnostic evaluation

Platelets ≥ 150

VITT Unlikely

- Consider alternative diagnoses including vaccine-unrelated VTE
- Investigate and manage accordingly

Thrombosis Confirmed

Thrombosis NOT Confirmed

Probable VITT

- NO platelet transfusion
- Consult haematologist to advise on:
  - NON-heparin **therapeutic** anticoagulation
  - Collect and send samples for VITT testing#
  - Requirement for URGENT IVIg 1-2g/kg in 2 divided doses

Possible VITT

- Consult haematologist
- Collect and send samples for VITT testing#
- Consider NON-heparin **prophylactic** anticoagulation **and/or** IVIg

*Symptoms/signs:

CVT: persistent headache, visual changes, focal neurological symptoms, seizures, coma, secondary ICH

Splanchnic vein thrombosis: abdominal pain

PE/DVT: chest pain, dyspnoea, leg pain, redness or swelling

Arterial ischaemia: pallor and coldness in limb, myocardial ischaemia

Thrombocytopenia: petechiae, acute onset bruising or bleeding

^CT cerebral venogram for CVT and CT abdomen with contrast for splanchnic vein thrombosis; Link to RANZCR guidelines

SCAN ME

Link to VITT Testing Form

SCAN ME

Link to THANZ Advisory Statement

VITT Practice Points:

- The symptoms of CVT and splanchnic vein thrombosis can be mild and gradual
- If symptoms occur within 4-days after the first dose of the AstraZeneca vaccine, VITT is very unlikely
- VITT has been reported up to 42 days after the vaccine
- Initial platelet count in VITT can be normal (usually associated with d-dimer ≥ 5 xULN), but can drop within hours
- Arrange for initial investigation and management in the community setting if:
    - The patient is not acutely unwell or in severe pain, and
    - pathology results can be obtained and acted upon within 4-6 hours
- Otherwise, refer to the nearest Emergency Department for investigations and management
- In patients presenting with isolated severe thrombocytopenia post-vaccination with no symptoms or signs of thrombosis, consider the diagnosis of vaccine-associated immune thrombocytopenic purpura
- Although extremely rare, VITT can develop after the second dose of AZ or JJ COVID-19 vaccine. Symptoms of thrombosis in this rare scenario can occur within the immediate 4-days post-vaccination, and up to 42 days after the second dose

This guideline was developed by the THANZ VITT Communications Committee. The aim of this multidisciplinary committee is to provide guidance regarding VITT (based on the THANZ Advisory Statement) specifically to non-haematology medical colleagues.

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