

Acute management of suspected vaccine induced thrombocytopenia and thrombosis (VITT)

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Introduction

In 2021 vaccine induced thrombocytopenia and thrombosis (VITT) emerged as an adverse event following COVID-19 vaccination. VITT is rare; nevertheless it can lead to catastrophic thrombosis and secondary haemorrhage with high mortality.¹ Studies show that patients with VITT have thrombocytopenia at presentation and subsequent coagulation abnormalities on available assays.²

At our district general hospital, patients with suspected VITT but normal platelet counts were found to have had further VITT investigations such as D- dimer, fibrinogen and in some cases, neuroimaging. Unnecessary diagnostic tests have a significant financial burden on healthcare.

Aims

To determine adherence to national guidance for investigation of VITT during the first 6 months of COVID-19 vaccination.

Methods

- Retrospective analysis of adult patients (>18-years old) presenting to the emergency department between 01/02/2021 and 31/08/2021 with headache following administration of COVID-19 vaccination.
- Audited against standards published by the Royal College of Physicians and Royal College of Emergency medicine on management of suspected VITT in April 2021.
- Re-audited against updated guidance published in May 2021.
- Data collected included triage presentation, discharge destination, brand of vaccine, days since vaccination, platelet count, D-dimer, fibrinogen and neuroimaging.

Results

- One case of VITT in a patient with thrombocytopenia.
- No patients with a normal platelet count had VITT.
- Median day of presentation to ED post vaccine dose was 7 days in cycle 1 and 14 days in cycle 2.
- 67% of patients presented in the window for suspected VITT in the first cycle and 81% presented during the updated interval post-vaccine in cycle 2.

	Cycle 1	Cycle 2
Patients thrombocytopenic	2.8%	0%
D-Dimer sent	37%	32%
Fibrinogen sent	31%	16%
Neuroimaging with normal platelet count	25%	40%

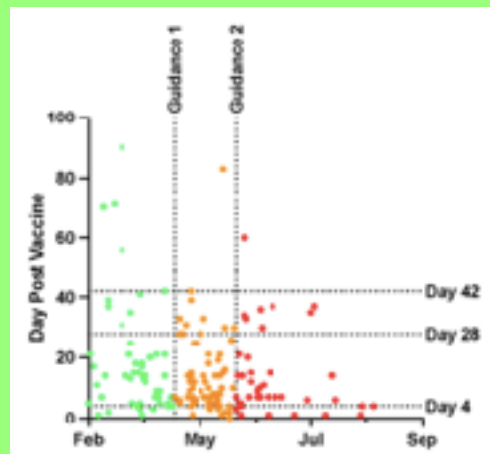


Figure 1. Timing of presentation with suspected VITT.

Green = pre-guidance patients

Orange = audit cycle 1 Red = audit cycle 2

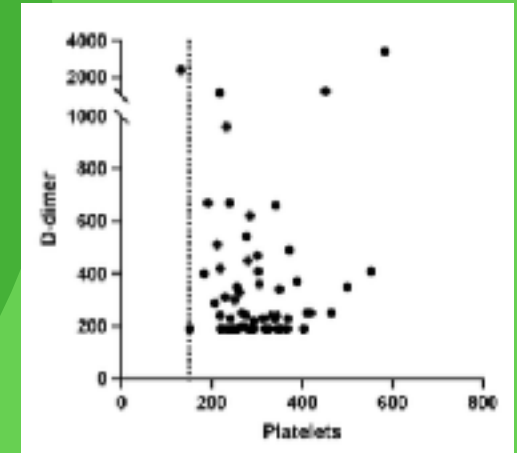


Figure 2. Scatter plot of platelet count vs d-dimer. Vertical dotted line represents cut off for thrombocytopenia with platelet count of $<150 \times 10^9/L$.

Conclusions

- Our data demonstrated that there were no cases of VITT with a platelet count of $>150 \times 10^9/L$, suggesting we can be confident in the parameters set in national guidance.
- Our data also reflects current literature demonstrating that VITT is rare, nevertheless when associated with significant clotting abnormalities can be fatal.²
- Triaging of patients to a suspected diagnosis of VITT is good but there is a poor adherence to subsequent laboratory and radiological guidance. Reasons for this are multifactorial.
- Requesting unnecessary blood tests and neuroimaging has financial implications

References

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