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A Suspected Case of Vaccine Induced Thrombosis with Thrombocytopenia following SARS COV2 Vaccine

Maryam Soliman
Rowan University

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A Suspected Case of Vaccine Induced Thrombosis with Thrombocytopenia following SARS COV2 vaccine



Maryam Soliman, D.O.

¹Rowan University School of Osteopathic Medicine, Department of Medicine, Stratford, NJ

²Jefferson Health NJ, Stratford, NJ

Introduction

- With the new development of the SARS-CoV vaccine and the majority of the population receiving this vaccine, it is important to recognize some of the rare side effects associated with it.
- Vaccine Induced Thrombosis with Thrombocytopenia is a potentially life-threatening diagnosis that must be recognized and treated correctly to prevent poor outcomes.

Case Presentation

68F with significant past medical history of gastric cancer s/p gastrectomy 20 years ago, who presented to the ED after she had a syncopal episode at her workplace. Patient had received her booster SARS-CoV vaccine three days prior to her presentation. Upon arrival to the ED, she was noted to be hypoxic and tachycardic. D-dimer was >14. CTA of the chest revealed moderate bilateral pulmonary emboli and suspected right heart strain. LE ultrasound showed left popliteal vein VTE. CBC showed thrombocytopenia with platelet count of 98. Patient was initially started on heparin drip in ED. Given evidence of sub massive PE with syncopal event, patient was given ½ dose TPA. TTE performed the following day did not show evidence of RV strain. With a high clinical suspicion for VITT, patient was subsequently transitioned to argatroban drip. PF4 HIT ELISA was negative, however, IV IG 1g/kg daily for 2 days was administered. Remainder of hospital course was unremarkable. She was subsequently placed on oral DOAC and discharged home on room air. This patient met all the diagnostic criteria for VITT except positive PF4 HIT ELISA which may be affected by receiving a heparin product in ED. She was treated with a non-heparin product. She was then transitioned to oral DOAC and did well overall.

Images



Fig.1:
left
side
P.E.

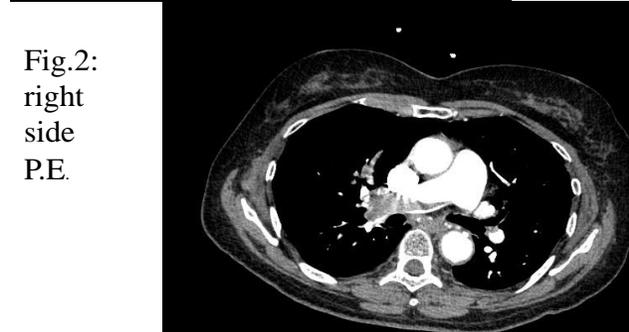


Fig.2:
right
side
P.E.



Fig.3:
Concern
for RV
strain

Discussion

VITT is diagnosed when the following five criteria are met: COVID vaccine 4-24 days prior to symptom onset, any venous or arterial thrombosis, thrombocytopenia <150, positive PF4 HIT ELISA, markedly elevated D-dimer >4x ULN. PF4-ELISA (HIT assay) should be drawn prior to the initiation of any therapy. The incidence is extremely low. Symptoms are nonspecific and include severe headache, visual changes, abdominal pain, nausea and vomiting, back pain, shortness of breath, leg pain or swelling, petechiae or bleeding. If VITT is suspected, immediate CBC with platelet count should be obtained. Imaging for thrombosis should be obtained. Therapy should be initiated with IV IG and non-heparin anticoagulant. To date, VITT appears far more likely following AstraZeneca/Johnson and Johnson adenoviral vaccines than Moderna/Pfizer mRNA vaccines. Treatment includes IVIG 1g/kg for two days, non heparin anticoagulation, avoidance of platelet transfusions. Patients should receive a minimum of three months of anticoagulation.

Conclusion

- VITT is a rare complication of the COVID vaccine
- Diagnostic criteria: COVID vaccine 4-24 days prior to symptom onset, any venous or arterial thrombosis, thrombocytopenia <150, positive PF4 HIT ELISA, markedly elevated D-dimer >4x ULN.
- Treatment is with IV IG, non-heparin anti-coagulant and a minimum of three months of anticoagulation.

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