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PB2324 SAFE ADMINISTRATION OF SECOND DOSE OF MRNA COVID-19 VACCINE FOLLOWING DEVELOPMENT OF IDIOPATHIC THROMBOCYTOPENIC PURPURA

Topic: 33. Bleeding disorders (congenital and acquired)

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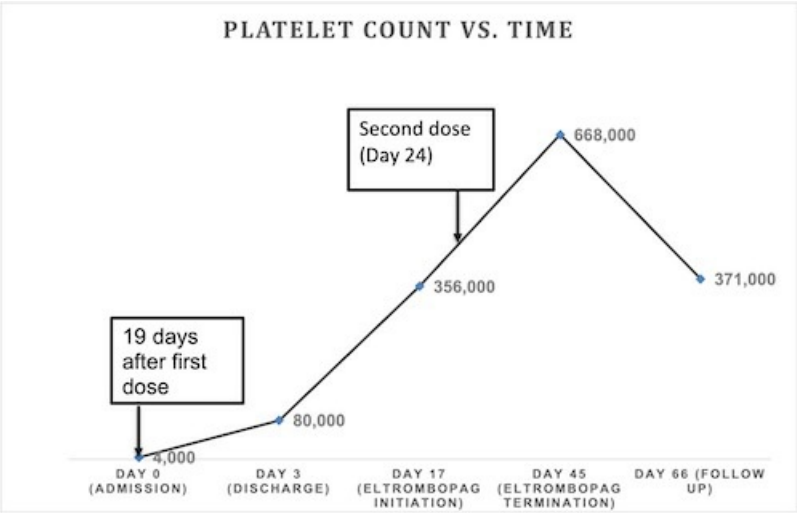
Background: Multiple cases of immune thrombocytopenia (ITP) occurring after SARS-CoV-2 mRNA vaccines have recently reached public attention. It has been reported in patients with previous ITP or other autoimmune diseases and in individuals with no associated past medical history. The management, and the recurrence of ITP with booster doses are still not well investigated and remains a challenge for clinicians.

Aims: To report potential benefit of Thrombopoietin receptor agonist (TPO) following immune thrombocytopenia (ITP) associated with COVID-19 vaccination.

Methods: Case report.

Results: A 36-year-old previously healthy woman presented with a 5-day history of menorrhagia, epistaxis, gingival bleeding, and petechial rash in extremities. The patient received her first dose of the BNT162b2 COVID-19 Vaccine two weeks before symptom onset. Laboratory workup on admission revealed a platelet count of less than 4,000/ml, hemoglobin of 14.7 g/dL, and white blood cell count of 10,900/mL. A peripheral smear confirmed severe thrombocytopenia with no schistocytes. Additional studies showed normal prothrombin time, partial thromboplastin time, basic metabolic panel, folate, B12, and Thyroid-stimulating hormone. Given the clinical and laboratory findings, the patient was diagnosed with Idiopathic thrombocytopenic purpura (ITP). She was started on a three-day course of Intravenous immune globulin (IVIG) 1 g/kg/d and methylprednisolone 60 mg/d, after which her symptoms improved and the platelet count increased to 80,000/ml. The patient was discharged three days after admission on a four-day prednisone taper plan. She was started on Eltrombopag 50 mg daily two weeks after discharge and received her second dose of the COVID-19 vaccine three weeks after discharge without any adverse reaction. Her platelet count was 356,000/ml at the time of initiation of Eltrombopag and increased to 668,000/mL after the completion of four weeks of treatment (three weeks after the second dose of vaccination). In a follow-up appointment three weeks after discontinuation of Eltrombopag, she denied any recurrent symptoms of bleeding or menorrhagia, and her platelet count was normal (371,000/ml).

Image:



Summary/Conclusion: Multiple cases of thrombocytopenia have been reported in recipients of both BNT162b2 (Pfizer-BioNTech) and mRNA-1273 (Moderna) COVID-19 Vaccines so far, with a reported incidence rate of 0.80 per million doses for both vaccines. Based on an annual incidence rate of 3.3 ITP cases per 100,000 adults, the observed number of all thrombocytopenia cases following administration of mRNA COVID-19 vaccines does not exceed the number of expected ITP cases. Symptomatic ITP is a severe condition that carries the risk of fatal hemorrhage and is generally treated with corticosteroids and/or IVIG. In refractory disease, splenectomy, or administration of TPO agonists can be considered. In patients with vaccine associated ITP, using TPO agonists earlier might be considered to avoid the use of immunosuppressants shortly after vaccination, which might impair the intended immunity against SARS-CoV-2.