

Vaccine-induced immune thrombotic thrombocytopenia: 5 case reports

In a case series, 5 patients (2 men and 3 women) in their 20's–70's were described at the end of August 2021 in Thailand, who developed vaccine-induced immune thrombotic thrombocytopenia (VITT) after receiving AZD-1222 COVID-19 vaccine.

Case 1: The woman, who was in her 20's presented with severe headache 9 days after receiving first dose of AZD-1222 [ChAdOx1 nCoV-19] vaccine. She also noted petechiae on both the lower extremities. Her initial platelet count was found to be $22 \times 10^9/L$. D-dimer level was noted to be 9452 ng/mL fibrinogen equivalent units (FEU). Anti-PF4/polyanionic antibodies were positive with optical density (OD) of 2.1. Based on these findings, a diagnosis of probable VITT was made and she was treated with immune-globulin [IVIG], apixaban and unspecified corticosteroids on day 1. She recovered completely following the treatment.

Case 2: The man, who was in his 30's presented with progressive headache and back pain 8 days after receiving first dose of AZD-1222 [ChAdOx1 nCoV-19] vaccine. His initial platelet count was noticed to be $19 \times 10^9/L$. CT scan of the brain showed cerebral venous thrombosis and CT scan of the whole abdomen revealed acute portal vein thrombosis. D-dimer level was found to be 46383 ng/mL FEU. Anti-PF4/polyanionic antibodies were positive with an OD of 1.8. Based on the findings, a diagnosis of definite VITT was made. He was then treated with immune-globulin [IVIG], apixaban and unspecified corticosteroids on day 1 prior the result of anti-PF4/polyanionic antibodies. Subsequently, his symptoms and thrombocytopenia resolved.

Case 3: The woman, who was in her 20's presented with progressive headache and vomiting 6 days after receiving first dose of AZD-1222 [ChAdOx1 nCoV-19] vaccine. CT scan of the brain showed cerebral sinus thrombosis with intracranial haemorrhage. Her initial platelet count was noted to be $192 \times 10^9/L$, with a subsequent nadir of $100 \times 10^9/L$. D-dimer level was found to be 87536 ng/mL FEU. Anti-PF4/polyanionic antibodies were observed to be negative with an OD of 0.2. Based on these findings, a diagnosis of probable VITT was made. She was treated with enoxaparin [enoxaparin-sodium] however, she died due to brain herniation.

Case 4: The man, who was in his 50's presented with left hemiparesis and progressive headache 15 days after receiving first dose of AZD-1222 [ChAdOx1 nCoV-19] vaccine. CT scan of the brain showed cerebral venous sinus thrombosis along with intra-cerebral haemorrhage. Platelet count was noted to be $72 \times 10^9/L$. Based on these findings, a diagnosis of possible VITT was made. He was then treated with decompressive craniectomy however, he died following brain herniation.

Case 5: The woman, who was in her 70's presented with drowsiness and headache 3 days after receiving first dose of AZD-1222 [ChAdOx1 nCoV-19] vaccine. CT scan of the brain showed cerebral venous sinus thrombosis and intracranial haemorrhage. Initial platelet count was found to be $218 \times 10^9/L$, which reduced to $142 \times 10^9/L$ during hospitalisation. D-dimer level was noted to be 8400 ng/mL FEU. Anti-PF4/polyanionic antibodies were found to be negative with an OD of 0.1. Based on the findings, a diagnosis of possible VITT was made. She was then treated with immune-globulin [IVIG], apixaban and unspecified corticosteroids, and the symptoms and thrombocytopenia improved. However, she died later due to urinary tract infection and sepsis.