Ad26.cov2-s

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Immune thrombotic thrombocytopenia: case report

A 39-year-old man developed immune thrombotic thrombocytopenia following administration of Ad26.COV2-S as prophylactic vaccination against COVID-19.

The healthy man received Ad26.COV2-S [Johnson & Johnson] single dose as prophylactic vaccination for COVID-19 [*dosage and route not stated*]. Eight days following vaccination, he presented to hospital with severe pain in the left thorax and upper abdomen. He was a cigarette smoker. He was admitted. Upon admission, laboratory tests revealed platelet count of 124 /nL. Abdomen and Chest CT scan showed no evidence of pulmonary embolism or a thoracic or abdominal haemorrhage. After two days, he was moved to ICU of another hospital. Three days following the initial presentation, his platelet count started to decrease. Upon admission to ICU, clinical examination revealed body temperature 39.4°C, HR 120 beats/min, BP 150/100mm Hg, BMI 26.5kg/m^2 and peripheral oxygen saturation 96% on room air. Physical examination showed no pathological findings. Reverse transcription polymerase chain reaction assay of nasopharyngeal swab samples was negative. On day 3, laboratory examination revealed thrombocytopenia and elevated serum D-dimer levels. Slight prolongation of the activated partial thromboplastin time (aPTT) was noted. Viral and antibody screening was negative. Compression ultrasound revealed a femoropopliteal thrombosis in both the legs and calf deep vein thrombosis in the right leg. Vaccine-induced immune thrombotic thrombocytopenia (VITT) was suspected.

The man started receiving treatment with immune globulin and argatroban. Within seven days, platelet count increased. Blood test revealed anti-platelet factor 4 (PF4)/heparin antibodies of the IgG class with a high titre, confirming Ad26.COV2-S induced VITT. On admission day 6, he was moved to normal ward due to rapid improvement in his condition. After two days, he reported severe pain in the left thorax and abdomen. CT pulmonary angiography exhibited the bilateral central emboli as well as emboli in the segmental arteries of every pulmonary lobe. Several consolidations were consistent with pneumonia due to respiratory infection. MRI scan of the abdomen revealed the new onset of bilateral enlarged adrenal glands due to acute bleeding. A transthoracic echocardiography revealed mild right ventricular dilatation. Troponin I levels were slightly increased. Consequently, he was re-transferred to the ICU. Upon admission to the ICU, he was tachycardic (HR 130 /min). He had mean arterial pressure of 75mm Hg and peripheral oxygen saturation of 85% under room air. Argatroban was continued. Analgesia was intensified. He received oxygen via nasal mask. Diagnosis was pulmonary embolism and primary adrenal insufficiency as a result of adrenal haemorrhage. Hence, hydrocortisone was started. Basal cortisol level of 2.5 g/dL confirmed adrenal insufficiency. During the subsequent days, his health status improved. After 5 days, he was discharged from the ICU. Argatroban was changed to rivaroxaban. Subsequent investigations confirmed the diagnosis of primary adrenocortical insufficiency. Hydrocortisone and fludrocortisone were continued. On day 22, he was discharged with normal platelet counts and in good health.

Tews HC, et al. SARS-CoV-2 Vaccine-Induced Immune Thrombotic Thrombocytopenia with Venous Thrombosis, Pulmonary Embolism, and Adrenal Haemorrhage: A Case Report with Literature Review. Vaccines 10: 595, No. 4, Apr 2022. Available from: URL: https://www.mdpi.com/search?sort=pubdate&page_no=1&page_count=10&year_from=2021&year_to=2022&journal=vaccines&view=default