

中文題目：疫苗引起之免疫血栓性血小板低下症併血栓與出血事件——病例報告

英文題目：Vaccine induced thrombotic thrombocytopenia with thrombosis and hemorrhage events – a case report

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Abstract

In the era of pandemic coronavirus disease-19, vaccination is the mainstay of infection control. ChAdOx1-S COVID-19 vaccine is the first vaccine introduced to Taiwan. In addition to efficacy, safety requires concern.

Herein, we report a case of 27-year-old man without a history of systemic disease, who presented with headache and abdominal pain about 2 weeks after receiving ChAdOx1-S COVID-19 vaccination. Laboratory examination disclosed progressive thrombocytopenia and hypofibrinogenemia, and overtly elevated level of d-dimer. He developed conscious disturbance, pulmonary hemorrhage, and respiratory failure rapidly after hospitalization. Computed tomography disclosed acute infarction in right thalamus and midbrain associated with focal hemorrhage as well as blood clots in pulmonary arteries. His serum was positive for serum anti-platelet factor 4 antibody (anti-PF4 Ab). We prescribed intravenous immune globulin (IVIG), corticosteroid and direct oral anticoagulant. After IVIG treatment, the platelet counts and fibrinogen level increased gradually, and d-dimer level dramatically decreased. The serum titer of anti-PF4 Ab initially decreased with IVIG and corticosteroid treatment, but fluctuated afterward. His consciousness improved gradually and neurological deficit slowly improved with rehabilitation. As pulmonary hemorrhage and respiratory failure improved, he was extubated. However, recurrent thrombocytopenia with acute deep vein thrombosis was found about 2 weeks after the first IVIG treatment. Follow-up serum titer of anti-PF4 Ab increased to the level as high as the first time. The second-cycle IVIG treatment was applied for new thromboembolic event with thrombocytopenia, and rapid improvement of thrombocytopenia was noted after IVIG treatment. We kept intensive care for the patient.

Vaccine induced thrombotic thrombocytopenia is a rare complication and might be life-threatening. Optimal management is still unknown. While IVIG with corticosteroid treatment seems effective, but repeat prescription may be needed for recurrent thrombosis. Next consideration of therapy for refractory disease might be plasma exchange. More investigation is needed for better management.