Immune Thrombocytopenia during Pregnancy due to COVID-19

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To the Editor:

In April 2020, during the 2019 novel coronavirus disease (COVID-19) pandemic, caused by the virus SARS-CoV-2, a pregnant patient was diagnosed with immune thrombocytopenia (ITP) triggered by COVID-19.

The 41 weeks pregnant woman, with no significant past medical history, presented to the obstetric physician due to contractions. She had a sore throat, but no other flu-like symptoms. She had no other symptoms, especially no signs of easily bruising or bleeding. Her vitals at presentation were: temperature of 36·4 ^{o}C; respiration rate of 16/min; peripheral oxygen saturation (SpO_2) of 98%; blood pressure of 115/80 mmHg; pulse of 93/min. General laboratory examinations were performed, which showed a platelet count of 16 x 10E09/L. Two weeks earlier the platelet counts were 98 x 10E09/L. The patient was suspected to have immune thrombocytopenia (ITP). Additional test with direct monoclonal antibody immobilization of platelet antigens (MAIPA) showed platelet auto-antibodies against glycoprotein V. Throat and nose swabs were positive for SARS-CoV-2.

The patient was diagnosed with a first presentation of ITP, most likely triggered by COVID-19. Treatment with intravenous immunoglobulin (IVIG) for two days was initiated. In order to be able to safely perform epidural anesthesia for the labor, two units of donor thrombocytes were administered. Her platelet counts increased to 80 x 10E09/L. Epidural anesthesia was complicated by hypotension with a suboptimal cardiotocography. Therefore, an urgent caesarian section was performed and a healthy daughter was born. Few hours later, she became hypoxic with a peripheral oxygen saturation of 91% without dyspnea. A chest CT showed infiltrates in the left lower lobe with ground-glass opacities, typical of COVID-19 (Supplementary Figure 1). Within 24 hours, the peripheral oxygen saturation increased to 100% while breathing room air. Four days later, she was discharged without flu-like symptoms and with stable platelet counts of 82 x 10E09/L that normalized three weeks later (315 x 10E09/L). Her newborn daughter did not develop any symptoms of COVID-19. The newborn's platelets were 158 x 10E9/L at birth, but decreased to 41 x 10E09/L 5 days after birth. However, her platelets increased spontaneously thereafter, reaching 198 x 10E09/L at three weeks.

About 80% of patients infected with SARS-CoV-2 are asymptomatic or have mild flu-like symptoms.[1] While mainly a respiratory disease, COVID-19 can trigger widespread systemic pathology, ranging from thrombo-embolism, cardiovascular injury, hyper-inflammatory syndrome, immune-mediated pathology and multi-organ failure.[2, 3] Interestingly, COVID-19 has some unique aspects interfering with the immune system which are rarely observed in other respiratory viral infections.[4] Lymphopenia and at the same time a cytokine storm, which is reflected by elevated levels of acute phase reactants, show an affected innate and adaptive immune system and are thought to predict disease severity. Similar to other viral infections,[5] SARS-CoV-2 can also trigger ITP and probably autoimmune hemolytic anemia.[6] Our patient developed a COVID-19 induced ITP that was confirmed by a positive MAIPA. This case-report shows that COVID-19 can induce ITP even in patients mild symptoms. Recently Zulfiqar et al. reported a case of suspected ITP in a patient admitted due to COVID-19.[7] The patient had normal platelet counts at admission but dropped gradually to 1 x 10E09/L in 8 days. However, no auto-antibodies against glycoproteins were found and no response to IVIG was observed in that patient.

As SARS-CoV-2 is very widespread now, we suggest to test for SARS-CoV-2 in patients suspected of a (relapsed) ITP, even in the absence of respiratory symptoms.

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Legends

Supplemental Figure 1. Chest CT showing infiltrates in the left lower lobe with ground-glass opacities.