



A Covid-19 Patient Presenting with Immune Thrombocytopenic Purpura: Case Presentation

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Abstract

A previously healthy 8-year-old girl presented with petechiae and purpura in the lower extremity, following a low-grade fever. The platelet count was 4000/mm³. The peripheral smear examination revealed scarcely distributed single thrombocytes. No atypical cells were observed in the peripheral smear. The RT-PCR test was positive for severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) in the oropharyngeal swab sample. A diagnosis of immune thrombocytopenia (ITP) due to the coronavirus disease 2019 (COVID-19) was made. In the literature, COVID-19-associated ITP in children has not been reported. This case is presented to draw attention to the potential of patients to develop ITP due to COVID-19.

Keywords: COVID 19; SARS CoV-2; Immune thrombocytopenic purpura

Introduction

The coronavirus disease 2019 (COVID-19) caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) has spread aggressively around the world and was declared as a pandemic by WHO (World Health Organization) [1]. The most common symptoms of COVID - 19 are fever, fatigue, and dry cough. Other symptoms include muscle pain, tight chest, and shortness of breath, nausea, vomiting, and diarrhea. In the literature, pediatric patients are reported to account for about 1 to 5% of the diagnosed COVID-19 cases. Generally, COVID-19 appears to occur less severe in children compared to adults. The disease course is asymptomatic, mild, or moderate in approximately 90% of pediatric patients. However, the disease course can be severe in up to 6.7% of cases. A severe disease usually occurs in patients younger than one-year-old and in patients with other underlying disorders. Epidemiological and clinical patterns of COVID-19 and treatment approaches in pediatric patients remain uncertain despite many reports on pediatric reports in the literature [2].

This article presents a pediatric patient diagnosed with COVID-19-related immune thrombocytopenia (ITP); who presented with petechiae and purpura besides the classical findings of the infection.

Case Report

A previously healthy 8-year-old girl presented with petechiae and purpura in the lower extremity, following a low-grade fever. Her general condition was good. Petechiae and purpura were present on the extensor surfaces of both lower limbs (Figure 1). The examination of the head and neck revealed normal findings. Respiratory sounds were natural. The cardiovascular examination findings were normal. The abdominal examination findings were normal. Hepatosplenomegaly or lymphadenopathies were not present. The platelet count was 4000/mm³. The peripheral smear examination revealed 68% polymorphic leukocytes, 22% lymphocytes, 8% monocytes, and 2% eosinophils. Thrombocytes appeared single and scarcely distributed in the peripheral smear examination. No atypical cells were observed in the peripheral smear. The urinalysis was positive for protein with highly

abundant erythrocytes. C-reactive protein (CRP) was 39.3 mg/l (reference 0-10), D-Dimer 501.8 was (<500), the leukocyte count was 7620/mm³, hemoglobin was 12.2 gr/dl, and hematocrit was 36%. Routine biochemical tests revealed normal results. The RT-PCR test was positive for SARS-CoV-2 in the oropharyngeal swab sample. A diagnosis of ITP due to COVID-19 was made. The patient was referred to the pediatric hematology unit to receive intravenous immunoglobulin (IVIG) therapy and antibiotics. After the treatment, the platelet count increased to 84,000/mm³. At the time of the writing this manuscript, the patient was still in the hospital. In the family screening, it was found out that the RT-PCR test was positive for SARS-CoV-2 in the nasopharyngeal swab sample of the father but the father was asymptomatic.



Figure 1: Petechiae and purpura were present on the extensor surfaces of both lower limbs.

Discussion

ITP is the most common acquired bleeding disorder of childhood. Nonspecific bacterial and viral infections are often responsible for the etiology. ITP can occur after vaccines or specific infections such as chickenpox, measles, EBV; hepatitis A, B, C; parvovirus-B19, influenza, or HIV [3,4]. As it is known, two-thirds of patients present with a history of a viral disease. Children with ITP are typically healthy previously and they are in a good clinical condition. However, they present with suddenly starting petechiae and ecchymosis. When no atypical findings are present,

laboratory tests are recommended to be kept at a minimum extent for a diagnosis. The diagnosis is made by excluding other possible causes of thrombocytopenia [5].

Despite many case reports and clinical studies about COVID-19 in children from all over the world, we think that there are uncertainties yet to be clarified for pediatric patients. Studies in the literature report that the course of COVID -19 appears mild in children [6]. At the time of admission of our patient to the outpatient clinic, her general condition was good and there were no abnormal physical examination findings other than petechiae and purpura in the lower extremities. The family was reluctant even for the laboratory tests. After convincing them and performing the tests, we observed severe thrombocytopenia on the hemogram. Moreover, the RT-PCR test for SARS-CoV-2 was positive in the sample collected from the patient's father although he had no symptoms. We performed the RT-PCR test only because of the positive test result in our patient. If the patient and the father remained unfollowed, serious complications could have developed and our patient and father would infect other people. Therefore, we should be careful and cautious in our approach to pediatric patients since they may develop a serious disease or spread the infection.

Conclusion

COVID -19 continues surprising us, the physicians. At present; we should not only remember classical COVID -19 findings but also extraordinary clinical manifestations of the infection when diagnosing patients. As the pandemic continues, we suggest that COVID-19 should be included in the differential diagnosis in case of any suspicion in these days.

Conflicts of Interest

No conflicts of interests

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Abbreviation

ITP: Immune Thrombocytopenia; COVID-19: The coronavirus disease 2019; SARS-CoV-2: Severe acute respiratory syndrome coronavirus-2; CRP: C - reactive Protein; WHO: World Health Organization

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