

Priapism associated with COVID-19: a pediatric case

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ABSTRACT

Background. Urological involvement is rare in patients with coronavirus disease 2019 (COVID-19). Priapism, one of the urological involvements, was reported as one of the COVID-19 comorbidities in the elderly male patient group but has rarely been reported in the pediatric age group.

Case. Herein, a previously healthy 8-year-old patient with COVID-19-associated priapism, which is rare in children, is presented.

Conclusions. During the pandemic, in pediatric cases with priapism of unknown etiology, COVID-19 should be one of the diagnoses to be considered.

Key words: priapism, COVID-19, child.

Despite the fact that respiratory system involvement is prominent in patients with coronavirus disease 2019 (COVID-19) since the pandemic various other clinical findings have been presented such as urological involvement.¹ Priapism was reported rarely in elderly cases with COVID-19.² Here, a pediatric case that was admitted to the hospital with priapism and was also found to be positive for COVID-19 is described.

Case Report

A previously healthy 8-year-old boy, with no history of a surgical procedure, was admitted to the University of Health Sciences, Dr. Behçet Uz Pediatric Diseases and Surgery Training and Research Hospital, pediatric surgery clinic, because of an ongoing painless erection that had lasted for 48 hours. Medical history revealed that the patient had a fever and malaise 5

days before admission and had no additional respiratory or any other symptoms. Fever and a painless erection occurred on the same day. The patient had no history of penile trauma or drug use. On physical examination, there was no fever (37.2 °C), blood pressure (100/60 mmHg) and oxygen saturation (99%) were normal, and penile erection was present, but there were no signs of penile skin change, discoloration, or tenderness. Other systemic examinations were normal. A nasopharyngeal swab sample taken at hospital admission was positive for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) real-time polymerase chain reaction. There was no other individual with COVID-19 in the family. Blood cell count, peripheral blood smear, biochemical parameters and coagulation parameters including prothrombin time / international normalized ratio, activated partial thromboplastin time, fibrinogen level, and D-dimer levels, were all within normal range. The C-reactive protein was 1.53 mg/dl and slightly elevated (normal level <0.2 mg/dL). The patient was consulted to the pediatric hematology department, atypia and blast were not detected in the peripheral smear. In addition to the patient's medical history and laboratory

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evaluation, sickle cell anemia and thalassemia were excluded by hemoglobin electrophoresis and sickling test. His penile Doppler ultrasonography (USG) imaging revealed a “biphasic flow in the dorsal penile artery and cavernous arteries in the proximal part of the penis with an erect peak systolic flow velocity of 10-15 cm/sec (resistant arterial flow)”. In the treatment, ice was applied to the penile area and enoxaparin sodium was initiated. Repeat Doppler USG on the sixth day of hospitalization revealed “both corpus cavernous parenchyma echogenicity was homogeneous and no space-occupying formation and both cavernous arteries were patent and high resistive flow was observed in erection”. The patient recovered without any requirement for cavernous aspiration. Enoxaparin was discontinued after 5 days and the patient was discharged to continue outpatient follow-up and after discharge, no anticoagulant or other medication was started. Physical examination was normal in the outpatient clinic controls, and no additional problems were encountered.

Informed consent was obtained for publication from the family.

Discussion

Priapism is defined as an abnormal persistent penile erection lasting longer than 4 hours, beyond or unrelated to sexual arousal.^{3,4} The incidence of priapism in men is estimated at 0.3-1.5 per 100,000 per year and is most common in men in the fifth decade. Although there are no clear data about priapism in children, it seems rare.⁴

There are three widely accepted types of priapism: ischemic (low-flow, veno-occlusive), stuttering (intermittent, recurrent ischemic), and non-ischemic (high-flow, arterial).⁴ Ischemic priapism is the commonest type seen in children and is typically painful. Stuttering priapism describes recurrent “unwanted and painful erections” which are often self-limiting but may precede an “unrelenting” ischemic priapism.

Non-ischemic priapism is a partial erection due to unregulated cavernous arterial flow which is usually painless. SARS-CoV-2 has been linked to thromboembolic complications.² The reports presented on COVID-19 and priapism have shown that the type of ischemic priapism can be seen in older men.⁵⁻⁷ Non-ischemic priapism is derived from unregulated arterial inflow within the penis and is less well characterized than ischemic priapism.⁸ Non-ischemic priapism is mostly a result of trauma. Although the pathogenesis has not been fully defined: it is suggested that it may also be due to impaired autonomic regulation of penile blood flow, vasculopathy or iatrogenic injuries caused by blood aspirations or shunt.⁹ In the case reports published during the pandemic period, post-COVID-19 ischemic priapism cases were seen in the elderly patient group with underlying comorbidities, and in a 12-year-old patient without any underlying disease in the pediatric age group, ischemic priapism was detected after COVID-19 infection.^{6,10,11} Unlike our case, the 12-year-old patient had COVID-19 7 weeks before the diagnosis of priapism, but in the adult age group cases, as in our case, priapism and COVID-19 were detected simultaneously. While priapism was ischemic in detected cases, it was nonischemic in our case.

This case was diagnosed as non-ischemic priapism, which is less common than the other types of priapism. This present case is one of the first reports of a child with COVID-19 presenting with priapism. However, it is not clear whether this finding is a complication of COVID-19 or it is a coincidental situation. On the other hand, we thought that the priapism might be associated with COVID-19, since non-ischemic priapism can originate from irregular arterial inflow in the penis, and COVID-19 may cause a slowdown in flow with hyperviscosity, and the patient had no history of trauma and no signs of hematological disease. Due to the wide spectrum of clinical presentation of COVID-19 infection during the ongoing pandemic, COVID-19 should be kept in mind in pediatric cases with priapism with unknown etiology.

Ethical approval

Consent was obtained from the parents for the publication of this case report.

Author contribution

The authors confirm contribution to the paper as follows: study conception and design: AAK, AO; data collection: MYÇ, EB, MD, ABU; analysis and interpretation of results: AAK, AŞ; draft manuscript preparation: MYÇ. All authors reviewed the results and approved the final version of the manuscript.

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Conflict of interest

The authors declare that there is no conflict of interest.

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