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Superficial Thrombophlebitis of the Penis following AstraZeneca ChAdOx1-S Vaccination: A Rare Venous Thromboembolic Complication

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ABSTRACT

Penile Mondor's disease is a rare condition characterised by superficial thrombophlebitis of the penis which is usually self-limiting. The cause is often unknown. The AstraZeneca ChAdOx1-S vaccine has been found to cause a hypercoagulable state, which is well documented. This case report describes a man who presented with Mondor's disease following ChAdOx1-S vaccination with no other risk factors.

LEARNING POINTS

- This is the first documented case of penile thrombophlebitis following ChAdOx1-S vaccination.
- We highlight a rare presentation of an uncommon condition.
- Clinicians should be aware of the clotting risks associated with ChAdOx1-S vaccination.

KEYWORDS

AstraZeneca, COVID-19, Mondor's disease, penile pain, thrombophlebitis

INTRODUCTION

Penile Mondor's disease (PMD) is a rare condition characterised by thrombophlebitis of the superficial veins of the penis [1]. While the aetiology is rarely identified, insults such as trauma, sexual activity, infection or any trigger precipitating an inflammatory process have been recognized as potential risk factors [1]. As the disease is thought to be self-limiting, treatment is rarely required, but reports identify warm compression, abstinence, anti-inflammatory drugs and heparin as treatment options [1, 2]. This case report describes the first published case of penile thrombophlebitis after administration of the AstraZeneca ChAdOx1-S vaccine, a now well-documented precipitant of a heightened prothrombotic state [3] that is highly relevant during the current ongoing pandemic.

CASE DESCRIPTION

A 59-year-old man presented to his general practitioner due to 7 days of pain and inflammation of the proximal one-third of his penis. He recounted no recent genitourinary infections, trauma or previous concerns about his penis. As regards his medical history, he had previously been noted to have mild hypertension and was not on any regular medications. Examination revealed inflammation at the base of the penis, and a firm palpable rope-like vein on the left dorsum. A urine dipstick was negative for infection, and he did not undergo a panel of blood tests at this stage. It was noted that 7 days prior to his symptoms he had been administered his first dose of the AstraZeneca ChAdOx1-S vaccine.

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Due to the symptomatology, he underwent colour Doppler ultrasound of the penis, which revealed an echogenic tubular structure measuring 2 mm at the base of the penis extending along the painful line, consistent with PMD.

One week later, he had taken paracetamol and ibuprofen for pain and his symptoms had nearly resolved. The case was discussed with the local Urology and Haematology departments, with a set of bloods revealing a platelet count of 197/nl (150–400), INR 1.0, APTT 28 seconds and CRP <1. As these blood tests were performed following resolution of his symptoms, it was expected that no inflammatory or clotting abnormalities would be found. Due to symptom resolution, no further treatment was deemed necessary.

DISCUSSION

During the COVID-19 pandemic, thromboembolic events following administration of the AstraZeneca vaccine have been at the forefront of public concern, worldwide media and medical publications [3]. Studies have suggested that within the first 28 days following administration, there is an increased risk of vaccine-induced thrombotic thrombocytopenia (VITT) [3]. A large binational cohort study found an excess of 11 venous thrombotic events per 100,000 vaccinated population [3]. The aetiology is thought to be related to specific immune-mediated mechanisms involving platelet activating antibodies directed against platelet factor 4 [3, 4].

There have been two reported cases of PMD following COVID-19 infection [2, 5], likely caused by immunological dysfunction and inflammation resulting in excessive consumption of coagulation inhibitors [2]. Studies have demonstrated an increased risk of events such as pulmonary embolism and thromboembolic events despite prophylaxis [2]. However, so far there have been no published cases of superficial thrombophlebitis in the recently vaccinated population.

CONCLUSION

The authors suggest this case demonstrates a rare sequela of AstraZeneca ChAdOx1-S vaccination not yet reported in the literature. While it is unfortunate an initial blood panel was not taken to detect coagulation abnormalities to support this diagnosis, the absence of any other discussed risk factor beyond the recent vaccination in the patient leads us to believe it was the precipitating event. This case corroborates incoming data suggesting ChAdOx1-S vaccination places patients at low but appreciable increased risk of venous thrombotic events. While widespread vaccination is and should be endorsed to control the significant health and economic costs of COVID-19, it is a reminder that clinicians must be wary of a wide variety of side effects, particularly thrombosis in the otherwise well patient.

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