

Thrombosis of the deep dorsal penile vein in the postoperative period following bilateral inguinal plasty of the Lichtenstein type

Trombosis de la vena dorsal profunda del pene en el posquirúrgico mediato de plastia inguinal bilateral tipo Lichtenstein

Agustín Ignacio Vera-Salinas,^{*,‡} Diana Chávez-Garrido,^{*,§} Andrés Sánchez-Mercader^{*,¶}

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Palabras clave:

trombosis venosa profunda, trombosis del pene, vena profunda dorsal del pene, herniorrafia tipo Lichtenstein.

ABSTRACT

Introduction: the case of deep dorsal penile vein thrombosis is presented. This is the case of a 60-year-old male with a history of Lichtenstein repair of bilateral inguinal hernia three days before arriving at our emergency room with penis edema, pain, and erectile dysfunction. The diagnosis was made with ultrasonography of deep penile vein thrombosis and managed with oral anticoagulant agents, presenting remission and total vein recanalization with improvement of the symptomatology. **Conclusions:** deep dorsal penile vein thrombosis can be associated with the mediate post-surgical inguinal hernioplasty. The gold standard for diagnosis is venous Doppler ultrasonography. The use of oral anticoagulants demonstrated a total recovery with full affected segment recanalization. The management with factor Xa inhibitors of coagulation for three months demonstrated an efficient and secure treatment in this pathology.

RESUMEN

Introducción: presentamos un caso de trombosis profunda de la vena dorsal del pene. Se trata de un paciente masculino de 60 años, con antecedente de plastia inguinal bilateral tipo Lichtenstein, quien tres días posteriores a su egreso llega a al servicio de urgencia de nuestra unidad con edema del pene, dolor y disfunción eréctil. Mediante ultrasonido Doppler, se diagnosticó trombosis venosa profunda de la vena dorsal del pene y se dio manejo anticoagulante oral; presenta remisión de la sintomatología y recanalización venosa total, así como mejoría de la sintomatología. **Conclusiones:** la trombosis de la vena dorsal profunda se puede asociar al posquirúrgico mediato de plastia inguinal. Su diagnóstico de elección se considera el ultrasonido Doppler venoso. El manejo con anticoagulación oral presentó una recuperación ad integrum con recanalización total del segmento afectado, por lo que el manejo con inhibidores del factor Xa de la coagulación por un periodo de tres meses comprobó ser un tratamiento eficaz y seguro en esta patología.

INTRODUCTION

Superficial dorsal vein penis thrombosis is a rare disease that usually appears in men between the ages of 21-70 years. The etiological factors described are trauma, excessive sexual activity, prolonged sexual abstinence, local or distant infections, venous obstruction due to vesical distension, or secondary to varicocele, pelvic tumors or constrictor

elements used in certain sexual practices, as well as the abuse of certain intravenous drugs. Associations with certain tumors (bladder and prostate) have also been described. However, it is well described in the literature,¹⁻⁴ as well as its diagnosis and treatment; however, in urology, dorsal deep penile vein thrombosis (DDPVT) is considered a rare and poorly known entity. It is considered an emergency that requires early symptomatic and etiological

* General Hospital ISSSTE "Dr. Darío Fernández Fierro". Mexico City, Mexico.
‡ Third-year resident of the General Surgery Service.
§ Attending physician of Vascular Surgery.
¶ Second-year resident of the General Surgery Service.

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management in order to preserve erectile function and avoid recurrence.⁵ Cases of deep dorsal penile vein thrombosis associated with Behcet's disease,⁵ vaccination against COVID-19,⁶ pancreatic cancer,⁷ traumas, and even thrombophilias have recently been described.⁸⁻¹⁰ The treatment of superficial thrombosis is the use of analgesics and antibiotics with reports of total remission of the picture; however, there is no standardized management for deep venous thrombosis of the penis, being described in isolated cases with different etiology the management with anticoagulants. This report describes a case of deep dorsal penile vein thrombosis associated with bilateral inguinal plasty in a patient with no known rheumatology, oncology, or hematology disease.

PRESENTATION OF THE CASE

The case of a 60-year-old male with a history of bilateral laparoscopic inguinal plasty in 2021, with recurrence and reintervention with Lichtenstein-type open technique in March 2023, history of systemic arterial hypertension, and dyslipidemia under treatment and control, is presented.

He came to the emergency room of our hospital unit 72 hours after an open inguinal plasty for presenting penile enlargement, accompanied by edema and pain, as well as loss of tone and inability to erect. The urology service was consulted and started antibiotic and analgesic management, requesting a penile venous Doppler ultrasound (*Figures 1 and 2*), which reported a deep dorsal vein without saturation at the power Doppler suggestive of thrombosis. With these findings, support was requested from the Vascular Surgery Service indicating in-hospital management with low molecular weight heparin at a dose of 80 mg every 12 hours for three days, presenting remission of the picture and subsequently discharged with anticoagulant management with apixaban, a factor Xa inhibitor, 5 mg every 24 hours for three months. He was scheduled for a follow-up appointment one month after discharge. He showed improvement, reduction of edema, recovery of tone, no

erectile dysfunction when interrogated, and the control Doppler ultrasound revealed complete recanalization of the affected segment.

DISCUSSION

Despite being a rare disease, superficial venous thrombosis of the penis has a vast bibliography in which it is reported as a self-limited disease, whose diagnosis and conservative treatment culminate in complete recovery of the patient, as reported by Rodriguez Faba and collaborators,¹ Kennebrew and associates,² and Arango O and colleagues,³ who indicated successful management with antibiotics and analgesics, without requiring other drugs. Nevertheless, thrombosis of the deep dorsal vein of the penis has been described in isolated case reports associated with different pathologies such as hematology,⁴ autoimmune,⁵ COVID-19,⁶ and oncology processes,⁷ with various management depending on the etiology suspected. However, as reported by Heng-Li Shen and his group,⁴ management with oral anticoagulants for 6-12 months is considered an adequate recommendation in cases of deep dorsal penile vein thrombosis. In the study by Jamali M and his team,⁶ describing a case associated with COVID-19 vaccination, management with coagulation factor Xa inhibitor anticoagulants for 3 months achieved complete recanalization of the deep dorsal vein. Viridis M et al.,⁷ reported a case in which deep dorsal vein thrombosis of the penis secondary to metastatic pancreatic cancer was reported, in which the use of anticoagulants was not recorded. Therefore, despite the scarcity of reports of this pathology, in our case, as in those previously reported, the use of anticoagulant inhibitors of coagulation factor Xa for three months resulted in total recanalization of the affected venous segment, being according with the literature reviewed. So, this could provide the basis for the management of this little reviewed pathology. Venous Doppler ultrasound as the diagnostic study of choice for this condition is presented as the ideal method in all the literature reviewed, in which the presence of

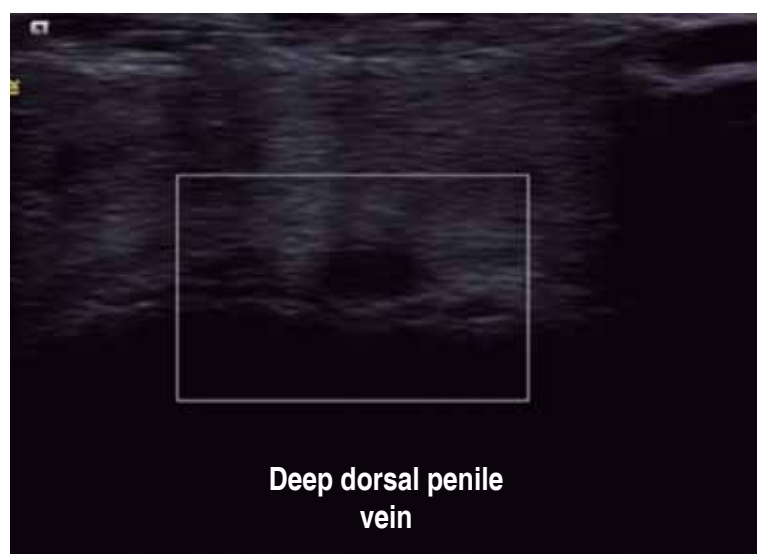


Figure 1: Axial section of deep dorsal vein of the penis by Doppler ultrasound, showing flow absence.



Figure 2: Longitudinal section of deep dorsal vein of the penis by Doppler ultrasound. Absence of flow is observed.

a hypoechogenic thrombus can be evidenced, accompanied by a distended vein with a lack of compressibility.⁵ Therefore, treatment based on anticoagulants and analgesics, despite not having a specific consensus on the time that should be continued, has presented a resolution with complete recanalization of the affected segment,⁶ with literature recording periods of three to 12 months of treatment. In the case of our patient, in whom postoperative

inguinal plasty was considered the precipitating factor, management for three months with anticoagulants was chosen, obtaining the result of complete recanalization, like the previously documented cases.

CONCLUSIONS

Thrombosis of the deep dorsal vein of the penis is considered a very rare entity of multifactorial etiology, which can be associated with post-surgical hernia surgery. However, with timely treatment, it usually leads to a full recovery of the patient. The diagnosis of choice is with venous Doppler ultrasound. Due to the low incidence reported, there is no standardized treatment; in our case, management with oral anticoagulation with a factor Xa inhibitor, led to a complete recovery with total recanalization of the affected segment.

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Correspondence:

Agustín Ignacio Vera-Salinas

E-mail: agustinverasa@gmail.com