CASE REPORT

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Spermatic vein aneurysm: a report of a unique case and review of the literature

KONSTANTINOS SAPALIDIS[1)], KONSTANTINA TSOPOURIDOU[1)], MARIA FLOROU[1)], PRODROMOS HYTIROGLOU[2)], ALEXANDRU CLAUDIU MUNTEANU[3)], VALERIU ŞURLIN[3)], EFSTATHIOS PAVLIDIS[1)], ISAAK KESISOGLOU[1)], CRISTINA POPESCU[4)]

[1)] *3rd Department of Surgery, AHEPA University Hospital, Aristotle University of Thessaloniki, Thessaloniki, Greece*

[2)] *Department of Pathology, Aristotle University of Thessaloniki, Thessaloniki, Greece*

[3)] *Department of Surgery, University of Medicine and Pharmacy of Craiova, Romania*

[4)] *Department of Anatomy, University of Medicine and Pharmacy of Craiova, Romania*

Abstract

A spermatic vessel aneurysm is a rare entity, described only a few times in the literature. In most cases, it is caused by trauma or inflammation and appears as a painful mass in the scrotum or the inguinal area. We present a case of a 22-year-old man who came to our Surgical Department with a painful, palpable mass in the right inguinal area. A spermatic vein aneurysm was diagnosed with the use of ultrasonography and it was surgically excised. The findings were confirmed by pathological examination. The patient is well, four months after surgery. A spermatic vessel aneurysm, though rare, should always be included in the differential diagnosis of a scrotal or inguinal mass. The lesion can be cured by surgical resection.

Keywords: aneurysm, spermatic vein, scrotal mass, inguinal mass, scrotal trauma.

Introduction

The term 'aneurysm' describes the dilatation of a vessel, either artery or vein. Arterial aneurysms affect mostly the aorta, carotid, popliteal and common femoral arteries [1]. Vein aneurysms are much less common [2].

A spermatic vessel aneurysm is a rare entity, first described in 1994, by Ohmori & Isokawa [3], with only a few cases described in the literature. They usually present as painful, palpable masses in the scrotum or the inguinal area. The cause is, in most cases, blunt trauma or inflammation. The treatment can be either conservative or surgical.

Aim

We present a case of a spermatic vein aneurysm in a young man, with a strong possibility of previous blunt scrotal trauma, which was treated surgically.

Case presentation

We present a case of a 22-year-old man, who came in 3rd Department of Surgery, AHEPA University Hospital, Aristotle University of Thessaloniki, Greece, with acute-onset pain in the right inguinal area. No other symptoms where described. A palpable mass with a diameter of approximately 2 cm was found in the right spermatic cord, during clinical examination. Both testicles appeared normal and painless. Laboratory tests where within normal range. His personal medical history was clear and his family history was of no significance. History of blunt trauma in the area, although not described by our patient, was very probable as he was a basketball player. An ultra-sonography was performed and revealed a hypoechoic mass in the right spermatic cord, measuring 1.3×2.4 cm, with limited peripheral vascularization (Figure 1).

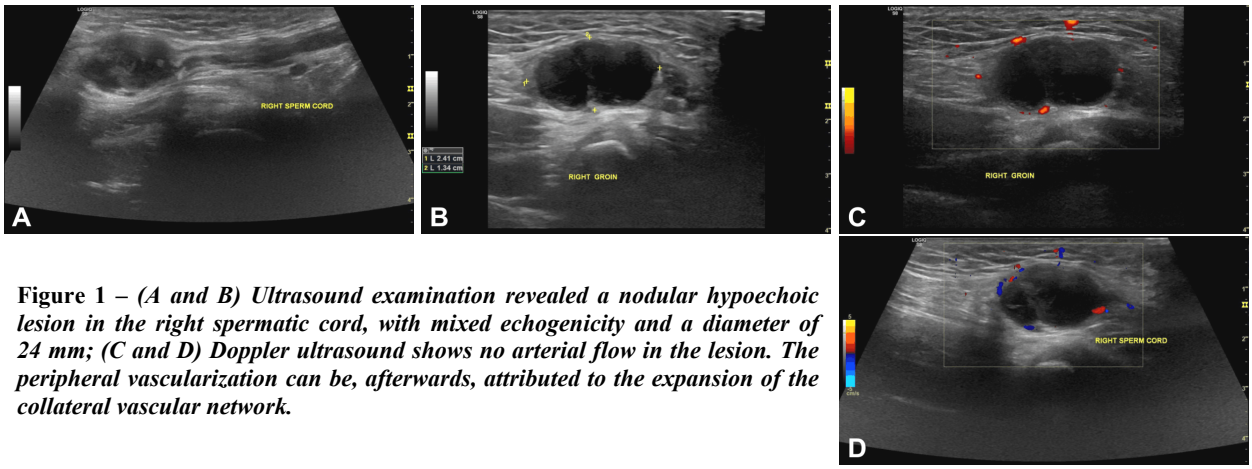

Figure 1 – ***(A and B) Ultrasound examination revealed a nodular hypoechoic lesion in the right spermatic cord, with mixed echogenicity and a diameter of 24 mm; (C and D) Doppler ultrasound shows no arterial flow in the lesion. The peripheral vascularization can be, afterwards, attributed to the expansion of the collateral vascular network.***

The right testicle appeared normal on ultrasound. Surgical treatment was decided and the intraoperative diagnosis of an aneurysm of the spermatic vein was made (Figure 2).

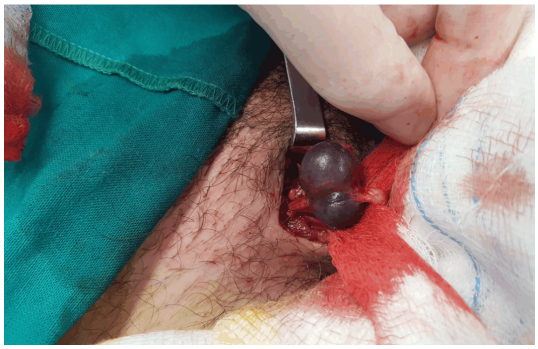

Figure 2 – ***Intraoperative recognition of the spermatic vessel aneurysm, followed by dissection of the vessel and excision of the aneurysm.***

The vessel was ligated and the aneurysm was excised. Pathological examination confirmed the diagnosis of spermatic vein aneurysm; an organizing thrombus was present in the lumen (Figure 3).

The postoperative course was uneventful and the patient was discharged with his symptoms fully resolved. He remains well four months following surgery.

Discussions

Spermatic vessel aneurysms are rare with very few previous reports in the literature. The first report of a spermatic artery aneurysm was made in 1994, by Ohmori & Isokawa [3], and another six cases have followed since that date.

All of the previous cases described aneurysms of the spermatic artery. Intraoperative findings and pathological examination indicated a spermatic vein aneurysm in our case, which, to our knowledge, has not been described before.

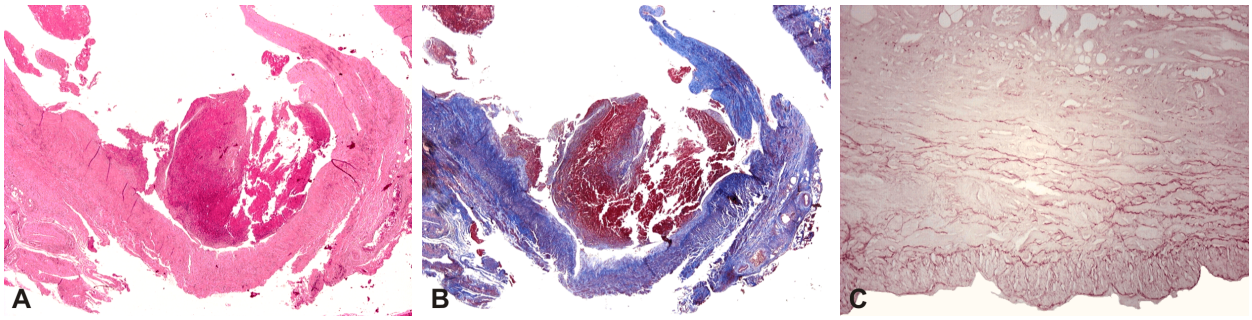

Figure 3 – ***Histological sections of the resected vessel show a dilated vein containing an organizing thrombus. The details of the vascular wall can be appreciated in Hematoxylin–Eosin (A, ×40), Masson's trichrome (B, ×40), and Orcein (C, ×100) stainings.***

The cause was trauma in two cases [4, 5], another two cases supported orchitis as a risk factor [6, 7], and in the rest, the cause was suspected to be unrecognized trauma, inflammation or congenital [3, 8, 9]. In our case, we hypothesize the cause to be blunt trauma, taking into account that our patient was a basketball player.

Some authors consider that venous aneurysms appear due to congenital or acquired deficiencies in the connective tissue components of the venous wall [10], while others have observed increased expression of metalloproteinases that would be responsible for the destruction of the elastic lamellas and smooth muscle cells in the vein wall [11]. Acquired venous aneurysms can be caused by several pathological processes: tumors, inflammations, trauma or they may occur spontaneously, without an obvious cause [12, 13]. Most studies consider that at the level of the venous wall there are processes of degradation and remodeling of the extracellular matrix, with slow evolution, which causes many aneurysms to have no symptoms [14].

In most cases, the spermatic vessels aneurysm demonstrated itself as a painless palpable mass or as pain in the scrotum or the inguinal area. Although enlargement and tenderness of the hemiscrotum seem to be the case in most reports, in our case both testicles were painless and normal-sized, with the palpable mass in the spermatic cord area.

In most cases, the diagnosis was confirmed with ultrasonography, both regular ultrasound and Doppler. Magnetic resonance imaging was used complementarily in two cases [3, 8].

As spermatic vessel aneurysms are rare, there are no widely known recommendations for treatment. In three cases, an orchiectomy was performed either due to ischemic orchitis, in one case [5] or to exclude testicular neoplasm, in the other two [6, 7]. In two cases, no surgical intervention was needed [4, 8], whereas in the other two, the aneurysm was excised and the vessel ligated, preserving the testis with adequate vascularization [3, 9]. In our case, the testis was viable with no alterations, so we proceeded with conservative surgical treatment, excising the aneurysm and ligating the vessel.

We, as other authors [15, 16], also consider that venous aneurysms can cause severe complications, such as deep vein thrombosis, pulmonary embolism and even death. For these reasons, we believe that the treatment of venous aneurysms should be done urgently.

Conclusions

Although spermatic vessel aneurysms are rare, we present this case to support that they should be included in the differential diagnosis of a scrotal or inguinal mass, especially when history of regional trauma or inflammation is present. The few cases described suggest that ultrasonography plays a central role in the diagnosis; sometimes, surgical intervention may be necessary. Pathological

examination should always be performed to confirm the diagnosis.

Conflict of interests

The authors declare no conflict of interests.

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Corresponding author

Konstantinos Sapalidis, Associate Professor of Surgery, MD, PhD, 3rd Department of Surgery, AHEPA University Hospital, Aristotle University of Thessaloniki, St. Kiriakidi 1, 54621 Thessaloniki, Greece; Mobile +306944706828, e-mail: sapalidiskonstantinos@gmail.com

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