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Case Report

A confusing testicular tumor: a case report

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Abstract

Cavernous hemangioma is a benign tumor that may occur in any part of the body. Its occurrence in the testicular parenchyma is extremely rare. Patients may present with testicular mass mimicking a malignant testicular tumor. In some cases, patients present with acute onset. We report the case of a 51-year-old male who presented with a solid and edematous testicular mass evolving for 4 months. Radiological presentation was not specific, the ultrasound examination objectified a large hetero-echogeneous mass. Tumor markers including α-fetoprotein, β-human chorionic gonadotropin and LDH were normal. A malignant testicular tumor was suspected. Therefore, the patient underwent radical right orchidectomy. Gross examination of the specimen revealed a well circumscribed intratesticular nodule with hemorrhagic cut surface. However, pathological examination revealed a benign testicular tumor composed of dilated thin-walled cavernous vascular spaces filled with red blood cells, compatible with the diagnosis of testicular cavernous hemangioma.

Keywords: orchidectomy, testicular tumor, cavernous hemangioma

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1. Introduction

Cavernous hemangioma is a benign vascular tumor that may develop in any part of the body. Its occurrence in the testicular parenchyma is extremely rare. It can occur in infants to adults but typically during childhood or adolescence [1,2]. Although, its most common clinical presentation is a swollen painful testis, it can rarely have an acute onset or it may mimic a malignant testicular neoplasm [3,4]. Radiological appearance is not specific and may lead to diagnostic difficulties which can only be resolved by microscopic examination. We aim to report a rare case of testicular cavernous hemangioma that clinically mimicked malignant tumor.

2. Case report

A 51-year-old male with the medical history of surgery for bilateral inguinal hernia and pelvic fracture, presented with swollen right testis that had been evolving for 4 months. The physical examination objectified a solid, tender and edematous testicular mass. The mass was painful to palpation. The left testicle was normal. The patient was apyretic. Ultrasound examination showed a swollen right testicle with a large central hetero-echogeneous mass that measures 52.4x37.2x33.3mm (Fig.1). The mass demonstrated normal blood flow in color doppler ultrasound. It was pushing back the residual parenchyma which was being reduced to the periphery.

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The ultrasound showed also the presence of two inguinal lymphadenopathies and a moderate hydrocele of the vaginal. The pelvic tomography examination showed a heterogeneous enhancement of the right testicle. Laboratory examinations, including relevant tumor markers, particularly α-fetoprotein (2.94 UI/ml), β-human chorionic gonadotropin (<2.00 mUI/ml) and LDH (168 UI/l) were normal. The patient underwent a right radical orchidectomy.

Gross examination of the orchidectomy specimen revealed a well circumscribed solitary intratesticular hemorrhagic nodule measuring 43x32mm (Fig.2). In histological examination, the nodule was composed of dilated and thin-walled cavernous, blood-filled, vascular spaces lined by a single layer of flat endothelial cells. There was no cytological atypia or mitoses. These vascular spaces were separated by fibrous septa (Fig.3 & 4). Therefore, we made the diagnosis of a testicular cavernous hemangioma. The postoperative course was uneventful and the patient was discharged on day 2 after surgery. He remained free of recurrence or complications at the six months flow-up.

3. Discussion

Cavernous hemangioma is a congenital, benign vascular tumor that may affect any part of the body. Its occurrence either within the testicular parenchyma or from adnexal structures of the testis is extremely rare. In children, only 2% of hemangiomas develop in the genitalia. The lesion occurs most commonly before 20 years old but the reported age is variable and ranges from fetuses of 17 weeks to 77 years [5]. In this report, our patient is 51-year-old.

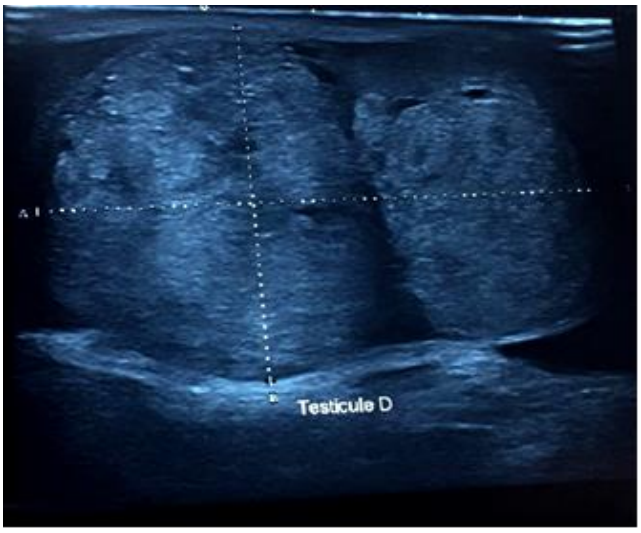

Fig.1. Ultrasound examination showing a large central hetero-echogeneous right testicular mass measuring 52.4x37.2x33.3 mm.

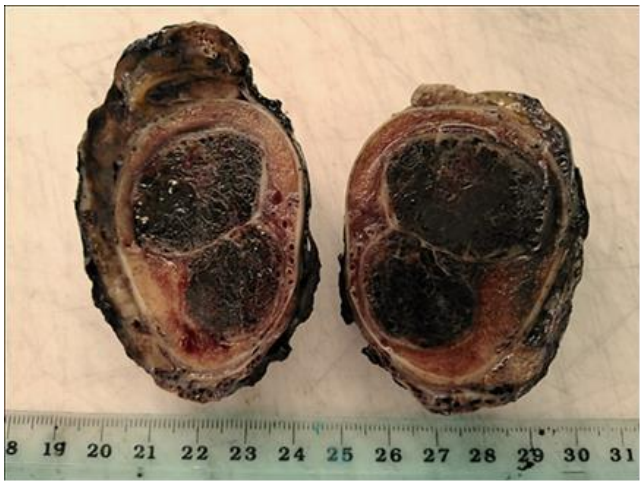

Fig.2. Macroscopic appearance of the testis: hemorrhagic cut surface.

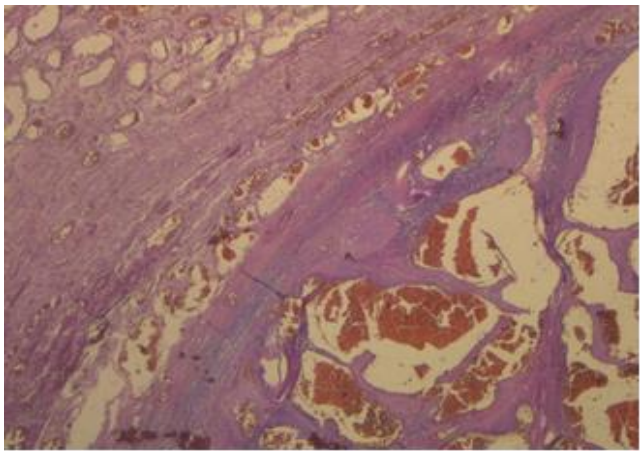

Fig.3. Histological examination revealed a benign tumor composed of proliferated vessels in the testicular parenchyma (Hematoxylin & Eosin stain, x25).

Patients usually present with testicular enlargement with or without tenderness, which can mimic malignant testicular tumors. In some cases, testicular hemangiomas are revealed urgently by torsion or infarction. Other complications of testicular cavernous hemangioma including rupture, hemorrhage, infection and infertility can occur. Pain, and ulceration are rarely reported [1,3–6]. Ultrasound examination may display hypoechoic, hyperechoic, or mixed echogenic masses with extensive hypervascularity and areas of low-resistance velocity on spectral Doppler imaging. Some hemangiomas show slower flow or a lesser degree of vascular pooling. Phleboliths and stromal calcifications may be reported and they are suggestive of cavernous hemangioma when associated with negative tumor markers [1,5,7].

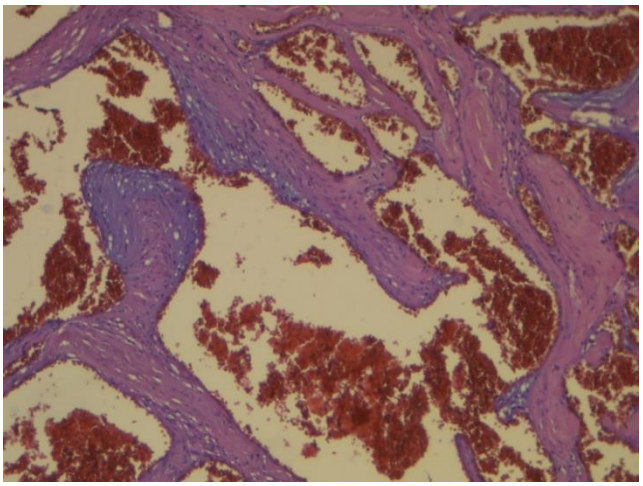

Fig. 4. Dilated thin-walled cavernous vascular spaces filled with red blood cells (Hematoxylin & Eosin stain, x100).

In our case, there was no calcifications in ultrasound examination which doesn't make it possible to formally rule out a malignant tumor. Indeed, several entities must be considered in the differential diagnosis of testicular hemangioma such as germ cell tumors (such as seminoma, teratoma, embryonal carcinoma); adenomatoid tumor and sex-cord stromal tumors (such as Sertoli cell tumor) [2,5].

Although testicular hemangioma is suggested by clinical and radiologic data, final diagnosis is usually established only by histopathological analysis. Intraoperative frozen section examination can be helpful for performing testicle-sparing surgery. Histologically, four types of hemangiomas of the testis were described to date: cavernous hemangiomas, capillary hemangiomas, histiocytoid and papillary endothelial hyperplasia [1].

Treatment options available for testicular hemangioma are surgical excision, laser fulguration, intralesional sclerotherapy and cryotherapy. This lesion exhibits benign clinical behavior, without local recurrence or metastasis [1,5].

In Summary, cavernous hemangioma of the testis is a very rare clinical condition. Its clinical presentation and findings on physical examination are similar to those of malignant testicular tumors, which may make the diagnosis less likely. Thus, this tumor should be considered in the differential diagnosis of a testicular mass mainly when tumor markers are negative.

Consent of patient

Written informed consent was obtained from the patient for participation in this study.

Consent for publication

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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Conflict of Interest Disclosures

All authors declare that they have no conflict of interest.

Authors' contribution

All authors listed have significantly contributed to the investigation, development and writing of this article. Manuscript drafting: SM. Data collection: SN and ACh. Manuscript revision: KM, AD and ECh. Patient management: BM. All authors have read and approved the final version of the manuscript.

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