SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

Urology

Giant Cavernous Hemangioma of the Spermatic Cord: Report of an Exceptional Case and Literature Review

Tetinou Fouelefack Aloys-Gibson[1*], Kogui Douro Akim[1], Kisanga Michel[2], Hodonou Fred[1], Avakoudjo Dejinnin Josué Georges[1]

[1]Clinique Universitaire d'Urologie-Andrologie, Centre Hospitalier Universitaire Hubert Koutoukou Maga, Cotonou, Bénin
[2]Clinique Universitaire de chirurgie générale, Centre Hospitalier Universitaire Hubert Koutoukou Maga, Cotonou, Bénin

DOI: https://doi.org/10.36347/sasjs.2025.v11i07.008 | **Received:** 28.05.2025 | **Accepted:** 07.07.2025 | **Published:** 14.07.2025

***Corresponding author:** Tetinou Fouelefack Aloys-Gibson
Clinique Universitaire d'Urologie-Andrologie, Centre Hospitalier Universitaire Hubert Koutoukou Maga, Cotonou, Bénin

Abstract | **Case Report**

***Introduction*:** Cavernous hemangiomas of the spermatic cord constitute exceptionally rare benign vascular malformations, representing less than 2% of genital hemangiomas. Fewer than 60 cases have been documented in the worldwide literature since the first description in 1956. Preoperative diagnosis remains difficult due to non-specific clinical presentation. ***Case Report*:** We report the case of a 53-year-old hypertensive patient who consulted for a right scrotal swelling evolving for 10 years. Scrotal ultrasound revealed a mixed tumor formation of 131 x 73 mm, weakly vascularized on Doppler, located at the level of the right spermatic cord. Tumor markers were normal. Right inguinal orchiectomy was performed. Anatomopathological examination confirmed the diagnosis of cavernous hemangioma. The postoperative course was favorable without recurrence at 12 months' follow-up. ***Conclusion*:** This case illustrates a cavernous hemangioma of the spermatic cord of exceptional dimensions. Surgical management by orchiectomy remains the reference treatment with excellent prognosis after complete excision.

Keywords: Cavernous Hemangioma, Spermatic Cord, Scrotal Mass, Inguinal Orchiectomy.

INTRODUCTION

Hemangiomas are benign vascular malformations characterized by abnormal proliferation of blood vessels. These lesions can be classified into several types according to their histological structure: capillary hemangiomas, composed of small capillary vessels, and cavernous hemangiomas, characterized by large sinusoidal vascular spaces lined with endothelium [1].

Although hemangiomas are frequent in other anatomical locations, their occurrence in male genital organs remains exceptional, representing less than 2% of all hemangiomas [2]. Involvement of the spermatic cord is particularly rare, with fewer than 60 cases reported in the worldwide literature since the first description by Hinman in 1956 [3].

Hemangiomas of the spermatic cord generally present as slow-growing scrotal masses, often asymptomatic in the early stages of development [4]. Their differential diagnosis includes testicular tumors, epididymal cysts, inguinal hernias, and other paratesticular masses [5]. The non-specific clinical presentation makes preoperative diagnosis difficult, often requiring histopathological confirmation [6].

Imaging, notably color Doppler ultrasound, may reveal suggestive but non-pathognomonic features, including a heterogeneous mass with hyperechoic and hypoechoic zones, sometimes associated with a weak Doppler signal [7]. MRI can provide complementary information by showing hypointense signal on T1 and hyperintense signal on T2, with enhancement after gadolinium injection [8].

Standard treatment remains surgical, with two possible approaches: conservative local excision or radical orchiectomy according to size, location, and possibility of testicular preservation [9]. The prognosis is generally excellent with a very low risk of recurrence after complete excision [10].

We report the case of a cavernous hemangioma of the spermatic cord of exceptional dimensions in a 53-year-old patient, illustrating the diagnostic and therapeutic challenges of this rare pathology. This case is distinguished by its remarkable dimensions (131 x 73 mm), constituting one of the largest reported in the literature.

Case Report

A 53-year-old patient, with known hypertension for 5 years and treated with amlodipine 5mg, without other notable medical history, who presented for management of a right scrotal swelling. The patient reported using traditional remedies without symptomatic improvement. The swelling had progressively increased, causing moderate scrotal pain.

Clinical examination revealed a right scrotal mass, with soft and fluctuant consistency, non-transilluminable and slightly painful on palpation, with preserved general condition. Examination of the rest of the genital apparatus and other organs did not reveal any other notable abnormality.

Scrotal ultrasound demonstrated the presence of two testicles of normal morphology and dimension, with visualization of visualization of a voluminous mixed tumor formation, weakly vascularized on color Doppler, located within the right spermatic cord and measuring approximately 131 x 73 mm (Figure 1). Given the important size of the mass and suspicion of paratesticular tumor, an abdomino-pelvic CT scan was performed to exclude lymph node or visceral metastases, which proved normal.

Biological examinations, notably serum tumor marker assays (total hCG, alpha-fetoprotein, LDH), were within normal limits.

A right inguinal orchiectomy with complete exploration of the spermatic cord via high inguinal approach was performed under spinal anesthesia. The postoperative course was uncomplicated. The intervention consisted of an oblique inguinal incision, identification and control of the spermatic cord at the deep inguinal ring, then a bloc excision of the mass with the testicle and ipsilateral epididymis, due to close adherence of the tumor and testicular structures making conservative dissection impossible.

The operative specimen (Figure 2) showed a mass of 13 cm in greatest axis weighing 609g, of soft consistency, presenting on section a spongy surface with multiple dilated vascular cavities filled with coagulated blood. The adjacent testicle was macroscopically normal.

The anatomopathological report revealed a tumor proliferation well delimited by a thick fibrous capsule, composed of dilated and cystic capillary blood vessels, ectatic and filled with blood with underlying connective tissue containing moderate lymphocytic inflammatory infiltrate without signs of malignancy, in favor of a cavernous hemangioma developed at the expense of the spermatic cord (Figure 3). The testicle and epididymis were histologically normal.

Clinical evolution at 12 months of follow-up was favorable without signs of local recurrence or complications.

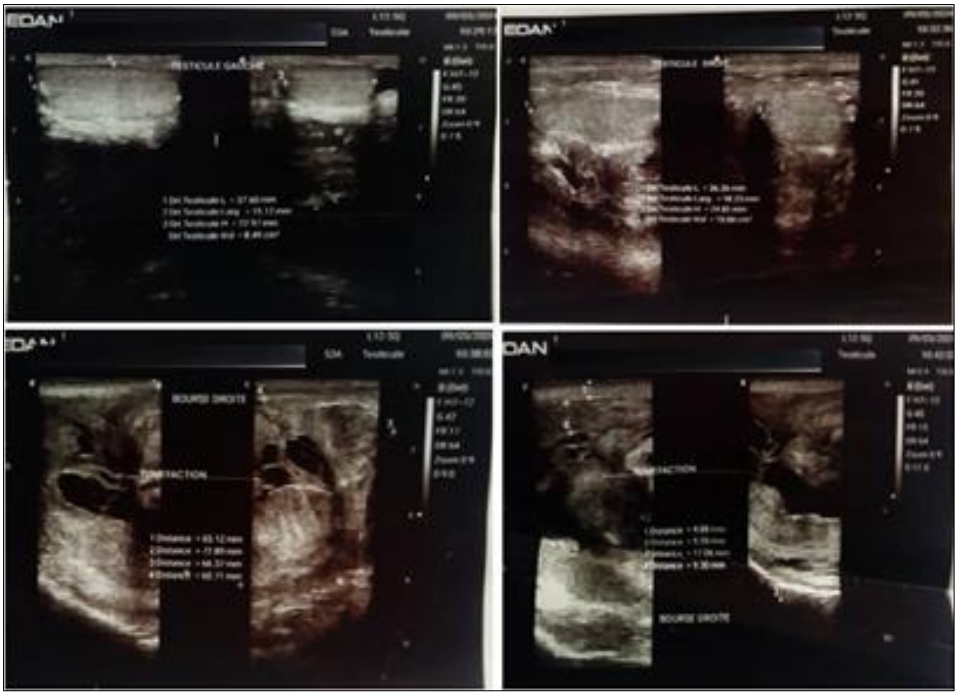

Figure 1: Scrotal ultrasound images

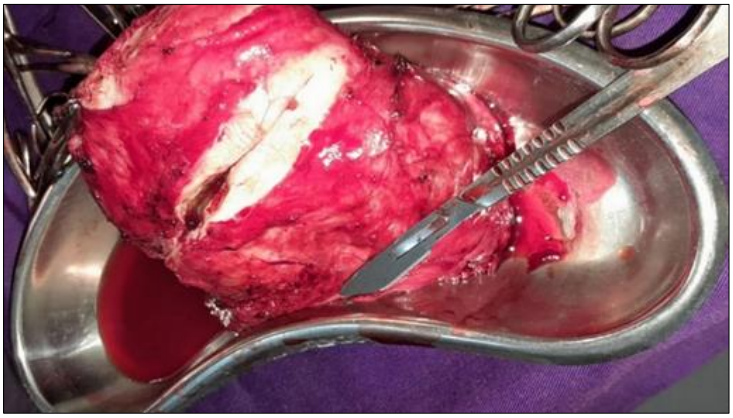

Figure 2: Surgical specimen of the right funicular mass

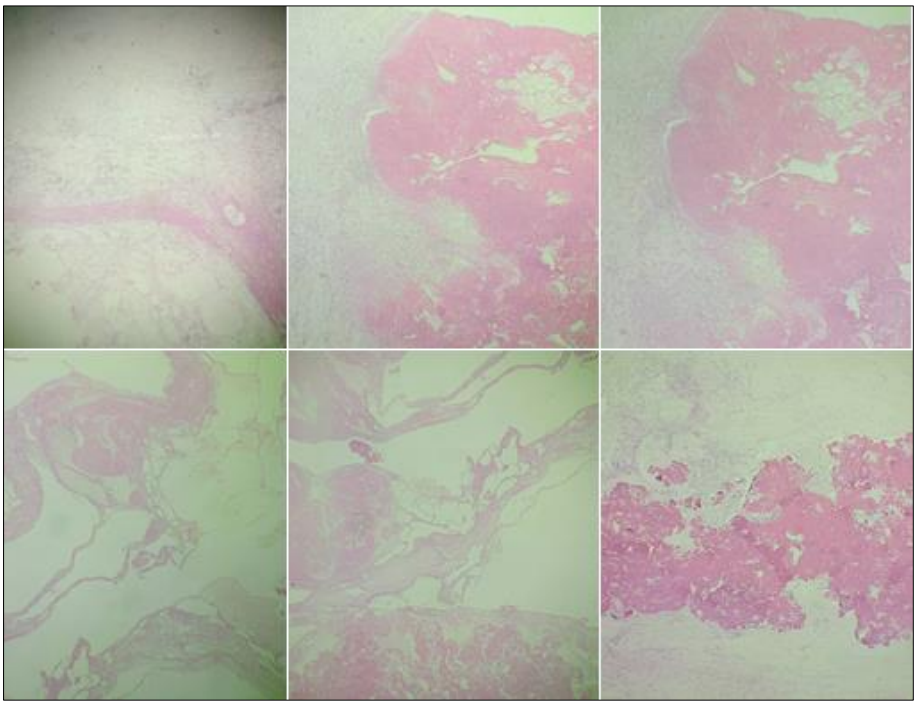

Figure 3: Histological section images of the surgical specimen

DISCUSSION

Our observation reports the case of a 53-year-old patient presenting a right scrotal mass with progressive evolution over a period of 10 years. The age of occurrence in our case corresponds to the most frequently reported age group in the literature, although this pathology can occur at any age. Indeed, pediatric cases have been described by Jeon *et al*., [11], while Li *et al*., [12], reported cases in middle-aged adults.

The exceptionally long duration of symptoms of 10 years in our case can be explained by several factors: the slow growth characteristic of these benign lesions, socio-economic constraints delaying medical consultation, and the absence of major complications. This duration significantly exceeds that generally reported in the literature, where symptom duration varies from a few months to a few years [4, 5].

Physical examination of our patient revealed a scrotal mass of soft and fluctuant consistency, non-transilluminable and slightly painful. This soft consistency is characteristic of cavernous hemangiomas, contrasting with the firm consistency of malignant testicular tumors. These clinical characteristics correspond to classical descriptions found in the literature [13]. The pain, present in our case, is explained by the mass effect exerted by the voluminous tumor on adjacent nervous structures.

Ultrasound performed in our patient is the first-line examination for any scrotal mass. It revealed a mixed tumor formation weakly vascularized on color Doppler, measuring approximately 131 x 73 mm. These exceptional dimensions place our case among the largest reported in the international literature. The observed ultrasound characteristics are consistent with those

described by several authors [14,15], who emphasize the heterogeneous aspect and presence of characteristic anechoic zones. The decreased vascularity observed on color Doppler is consistent with the nature of cavernous hemangiomas, characterized by slow blood flow in their dilated vascular spaces.

Performance of an abdomino-pelvic CT scan was justified by the exceptional size of the mass and the need to exclude locoregional extension, although hemangiomas are strictly benign lesions. This prudent approach is recommended for any large paratesticular mass according to international recommendations [16].

Normal tumor markers (total hCG, alpha-fetoprotein, LDH) constitute an important distinguishing feature with malignant testicular tumors and orient toward benign pathology. This characteristic is constant in the literature concerning genital hemangiomas [17].

The therapeutic choice warrants detailed discussion. Surgical treatment by inguinal orchiectomy performed in our patient represents an appropriate approach for this location, in accordance with literature recommendations. The inguinal approach is systematically preferable to the trans-scrotal approach because it allows better control of the spermatic cord and avoids the theoretical risk of dissemination in case of undiagnosed malignancy. However, some authors advocate conservative techniques with simple excision of the lesion and testicular preservation when technically possible [18]. Our choice of radical orchiectomy is justified by the exceptional volume of the lesion (131 x 73 mm), close adherences observed intraoperatively making safe conservative dissection impossible, and the need to obtain optimal carcinological control given this large mass.

Anatomopathological examination confirmed the definitive diagnosis of cavernous hemangioma, revealing the characteristic presence of dilated vascular spaces lined with mature endothelium without cellular atypia. These histological aspects are pathognomonic and allow differentiation of this lesion from other malignant vascular tumors like angiosarcoma.

The favorable outcome at 12 months of follow-up in our case confirms the excellent prognosis of this pathology after complete excision. The risk of recurrence is theoretically null after radical orchiectomy, contrary to partial excisions where exceptional recurrences have been reported [10].

Conclusion

Cavernous hemangioma of the spermatic cord remains a rare pathology that should be considered in patients with a chronic scrotal mass. Our case illustrates the importance of a systematic diagnostic approach combining clinical examination, imaging, and histopathological confirmation. The exceptional dimensions of this lesion (131 x 73 mm) make it one of the largest cases reported in the worldwide literature. Although the prognosis is excellent after complete excision, the choice between conservative surgery and radical orchiectomy should be individualized based on tumor size and local anatomical conditions. Clinical follow-up is recommended, particularly after conservative surgery.

Declarations

Ethical Considerations: This study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Informed consent from the patient was obtained for the publication of this clinical case.

Conflicts of Interest: The authors declare having no conflicts of interest in relation to this article.

Funding: No specific funding was received for this study.

Author Contributions:

- T.F.A.G.: Surgical intervention, conception, writing
- K.D.A.: Critical revision
- K.M.: Surgical intervention
- H.F.: Critical revision
- A.D.J.G.: Supervision.

Références

1. Li F, Han S, Liu L, Xu S, Cai D, Liang Z, et al. Benign testicular cavernous hemangioma presenting with acute onset: a case report. Mol Clin Oncol. 2020;13(1):19-22.
2. Woodward PJ, Schwab CM, Sesterhenn IA. From the archives of the AFIP: extratesticular scrotal masses: radiologic-pathologic correlation. Radiographics. 2003;23(1):215-40.
3. Hinman F Jr. Cavernous hemangioma of spermatic cord; first reported case. J Urol. 1956;76(2):221-4.
4. Liokumovich P, Herbert M, Sandbank J, Schvimer M, Dolberg L. Cavernous hemangioma of spermatic cord. Arch Pathol Lab Med. 2002;126(3):357-8.
5. Hasan S, Baithun S, McCreary B. Cavernous haemangioma of the spermatic cord. Postgrad Med J. 1993;69(810):323-4.
6. Tepeneu NF, Krafka K, Meglic S, Rogatsch H, Fasching G. Testicular cavernous hemangioma associated with testicular torsion - case report and review of literature. Int J Surg Case Rep. 2018;49:247-50.
7. Cassidy FH, Ishioka KM, McMahon CJ, Chu P, Sakamoto K, Lee KS, et al. MR imaging of scrotal tumors and pseudotumors. Radiographics. 2010;30(3):665-83.
8. Khoubehi B, Mishra V, Ali M, Motiwala H, Karim O. Adult intratesticular haemangioma. BJU Int. 2001;88(3):364-5.
9. Elbaghouli M, Aboutaib R, Dakir M, Rabii R, Meziane F. Hémangiome caverneux du cordon

spermatique: à propos d'un cas et revue de la littérature. Basic Clin Androl. 2010;20(2):155-8.
10. Giannarini G, Dieckmann KP, Albers P, Heidenreich A, Pizzocaro G. Organ-sparing surgery for adult testicular tumours: a systematic review of the literature. Eur Urol. 2010;57(5):780-90.
11. Jeon YS, Cho SG, Kim WH, Choi SJ. Cavernous haemangioma of the spermatic cord in a child. Pediatr Radiol. 2006;36(12):1323-5.
12. Kim SH, Park S, Kolon TF. Paratesticular hemangiomas in children: conservative management is justified. J Urol. 2009;181(6):2550-3.
13. Naveed S, Quari H, Sharma H. Cavernous haemangioma of the testis mimicking as testicular malignancy in an adolescent. Scott Med J. 2013;58(4):5-7.
14. Dogra VS, Gottlieb RH, Oka M, Rubens DJ. Sonography of the scrotum. Radiology. 2003;227(1):18-36.
15. Bhatt S, Dogra VS. Role of US in testicular and scrotal trauma. Radiographics. 2008;28(6):1617-29.
16. Albers P, Albrecht W, Algaba F, Bokemeyer C, Cohn-Cedermark G, Fizazi K, et al. Guidelines on testicular cancer: 2015 update. Eur Urol. 2015;68(6):1054-68.
17. Takaoka EI, Yamaguchi K, Tominaga T. Cavernous hemangioma of the testis: a case report and review of the literature. Hinyokika Kiyo. 2007;53(6):405-7.
18. Carmignani L, Gadda F, Gazzano G, Galasso F, Secchi P, Guttilla A, et al. High incidence of benign testicular neoplasms diagnosed by ultrasound. J Urol. 2003;170(5):1783-6.