Oncology

Management and Excision of a 15 cm Paratesticular Angiolipoma

Arnav Srivastava*, Natasha Gupta, Gregory A. Joice, E. James Wright

James Buchanan Brady Urological Institute, Johns Hopkins Medical Institutions, Baltimore, MD, USA

Abstract

Paratesticular tumors are rare and often benign causes of scrotal masses. Intrascrotal angiolipomas are an uncommon paratesticular tumor that has seldom been reported in the literature. This report describes a 77 year old man who presented with a 15 cm extratesticular mass. The mass was removed due to increasing discomfort and specimen pathology confirmed it as an angiolipoma. This case highlights the feasibility of conservative management for slow growing masses, such as angiolipomas.

Introduction

A scrotal mass, with or without pain, is a common reason for presentation to a general practitioner or urologist. Among these patients, paratesticular tumors are rare and constitute less than 5% of scrotal masses.1 This case, a pathologically confirmed extratesticular angiolipoma in a 77 year old man, demonstrates the utility of non-invasive evaluation of men who present with scrotal masses that do not fit the classic presentation of testicular cancer. To our knowledge, this case describes the largest reported scrotal angiolipoma.2

Case presentation

A 77 year old man presented to the urology clinic with a large left-sided scrotal mass. The mass was initially painless with slow growth over the prior 5 years. He was managed conservatively by his primary physician until he reported a progressing sensation of heaviness due to the weight of the mass. He denied sharp pain or tenderness. The patient had no history of pelvic surgery or testicular trauma.

Upon examination, both the penis and right testicle were normal and without palpable masses or lesions. In the left hemiscrotum, an approximately 12 cm rubbery mass was palpated and appeared separate from the left testicle, which was otherwise normal. Transillumination did not reveal a hydrocele and the mass did not reduce through the inguinal canal. All other exam findings were normal.

Scrotal ultrasound revealed a solid mass in the lower left scrotum measuring 11.3 x 8.4 x 11.4 cm. The mass was heterogeneous, echogenic with prominent vascularity, and contained an adipose component (Fig. 1A and B). Distinct from this mass, the left testicle appeared normal in size, measuring 4.7 x 2.3 x 3.2 cm, with several microcalcifications and a small hydrocele. Imaging of the right testicle revealed a normal sized testicle measuring 4.5 x 2.2 x 3.3 cm with a small hydrocele.

Given the above findings, including echogenic components suggestive of fat on ultrasound, the initial differential diagnoses included angiolipoma, fibrolipoma, teratoma, and liposarcoma. Given the size of the mass and the discomfort associated with its weight, the patient elected surgical removal.

Initial surgical intervention was deferred by the patient due to the slow growth of the mass, ultrasound findings suggestive of a benign etiology and absence of discomfort. Two months after presenting to an urologist for examination, the patient subsequently had surgical excision. The mass was found to be separate from the testicle and cord with a thick capsule and a vascular stalk in the perineum. The mass was removed without injury to the testicles or other complications.

Final gross surgical pathology revealed a large, reddish-brown mass with a soft and nodular texture, measuring 15.3 x 12.8 x 3.5 cm and weighing 471 g. Upon sectioning, examination inside the specimen revealed a heterogenous yellow-white surface with focal hemorrhage throughout. Micropathology revealed mature adipocytes surrounded by thin-walled capillaries and fibrin microthrombi found in blood vessel lumens (blue arrows) (Fig. 2).

* Corresponding author. 600 N. Wolfe Street, Park Building, Room 223, Baltimore, MD, 21287, USA.
E-mail address: asrivas9@jhmi.edu (A. Srivastava).

© 2017 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).
Two weeks after surgery the patient returned to the urology clinic having recovered well.

Discussion

Angiolipomas, a rare variant of lipomas, consist primarily of adipocytes and blood vessels. They typically occur as subcutaneous nodules in the limbs or torso in young adults. These benign tumors rarely occur in young children and adults over 50 years of age. Some adipose tissue tumors may have an association with genetic disorders such as Familial Multiple Lipomatosis or previous minor trauma. This present case does not meet these typical patient characteristics of an angiolipoma. Our patient, a 77 year old man, had no history of previous subcutaneous nodules or trauma.

This case has unique features regarding its location, size, management and diagnosis. One previous case describes a left-sided paratesticular angiolipoma, occurring six months after radical orchiectomy for an adherent liposarcoma of the right testicle. Conversely, our case presents a left-sided paratesticular tumor, without any previous history of genitourinary mass or scrotal surgery. Other reports of genitourinary angiolipomas have found masses in the right inguinal canal and left scrotal wall. We report a mass 15 cm in largest dimension, much larger than previous reports (less than 4 cm in any dimension). The present case, due to an extended period of observation, represents the largest of the few reported cases of genitourinary angiolipoma.

The patient’s mass, due to its size, became increasingly uncomfortable, thus requiring surgical removal. Conversely, in previously published cases, the masses were either asymptomatic or only tender to touch during examination.

Our case also highlights the feasibility of conservative management in the setting of slow growing extra-testicular tumors.

Figure 1. a: Transverse ultrasound of the left scrotum showing a mass 11.4 cm in diameter. Red arrow points towards vasculature. b: Sagittal ultrasound of the left scrotum showing the tumor with dimensions 11.3 x 8.4 cm. Red arrow points towards vasculature.

Figure 2. a: Excised scrotal mass. b: Gross sectioning of scrotal mass. c: Micropathology 40x magnification of scrotal mass. d: Micropathology 100x magnification of scrotal mass. Blue arrows point to fibrin microthrombi.
Whereas other cases excised the lesion soon after discovery, our patient had a large mass followed by his primary physician for over 5 years before removal. The patient’s pre-operative course and ultrasound findings were highly suggestive of a benign process such that delayed treatment was an acceptable approach in his case. Pre-operative physical examination and ultrasound demonstrated a non-infiltrating tumor separate from the testicle and surgery confirmed a well encapsulated mass without adverse pathological features. Thus, for slow growing paratesticular masses in patients without clinical concerns for a malignant process, a delayed treatment approach may be appropriate. However, if clinical concern for malignancy exists, then prompt surgical excision or biopsy should be performed.

**Conclusion**

Angiolipomas are rare introscrotal masses but can grow slowly necessitating surgical removal. Imaging suggestive of prominent adipose tissue may signal a benign process. Furthermore, for these non-invasive lesions initial conservative management may be appropriate.

**Funding**

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Conflicts of interest**

There is no conflict of interest.

**References**

1. Wein AJ, Kavoussi LR, Partin AW, Peters CA. *Campbell-walsh Urology*. Elsevier Health Sciences; 2015.
2. Al-Otaibi RA, Darwish AH. Intranodal angiolipoma. *Saudi Med J*. 2011;32(12):1308–1310.
3. Christodoulidou M, Khetrapal P, Edmunds L, Muneer A. Paratesticular liposarcoma and contralateral angiolipoma in a 60-year-old patient. *BMJ Case Rep*. 2015;2015. http://dx.doi.org/10.1136/bcr-2015-212078, bcr2015212078.
4. Rajagopalan S. An unusual pediatric scrotal lump. *Indian J Pediatr*. 2005;72(9):801. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16186688.
5. Copcu E, Sivrioglu NS. Posttraumatic lipoma: analysis of 10 cases and explanation of possible mechanisms. *Dermatol Surg Off Publ Am Soc Dermatol Surg [et al.]*. 2003;29(3):215–220. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12614411.