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Genitourinary

Scrotal sac leiomyoma: Case report of a rare benign scrotal mass

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ABSTRACT

Leiomyomas are benign mesenchymal tumors, the overwhelming majority of which are located in the uterus. Rare cases arise in other organs, including the scrotum, pelvis, bladder, and spermatic cord. This report evaluates the case of a 37-year-old man with a history of prior left inguinal hernia repair, who presented with a painless right scrotal mass. He first noticed the mass approximately 1 year prior to his initial visit. Subsequent ultrasound of the scrotum demonstrated a 5-cm circumscribed, hypoechoic, mildly vascular extratesticular mass located within the right hemiscrotum. Based on the initial imaging, the differential diagnosis included lipoma, adenomatoid tumor, papillary cystadenoma, leiomyoma, fibrous pseudotumor, sarcoid granuloma, sarcoma (including liposarcoma, rhabdosarcoma, or leiomyosarcoma), lymphoma, and an extranumerary testis. The mass had circumscribed margins, suggesting an encapsulated lesion, and was completely separate from the testicle on ultrasound. Despite this, testicular malignancy was not entirely excluded as a diagnosis, although it was considered far less likely. The patient was definitively treated with surgical excision of the mass. Pathology of the surgical specimen confirmed diagnosis of leiomyoma, a rare scrotal mass.

Introduction

Leiomyomas are benign mesenchymal tumors originating from smooth muscle cells. Leiomyomas of the uterus were first described in 1854 by Virchow as tuberculum dolorosum [1]. They represent the most common benign tumor of the genital tract in women of reproductive age. Leiomyomas also rarely develop in other locations, such as the scrotum, ovaries, bladder, lung, vascular structures, and spermatic cord [2]. Extrauterine leiomyomas may be classified according to the site of origin as a piloleiomyoma (derived from arrector pili muscles of hair follicles), an angioleiomyoma (from vessel wall smooth muscle), or a genital leiomyoma (derived from tunica dartos of scrotum and myoepithelial cells of the nipple) [3]. The most common subtype of extrauterine leiomyoma is the piloleiomyoma, and the least common is the genital leiomyoma [4].

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The first case of scrotal leiomyoma was described in 1858 by Forsters [5]. Scrotal leiomyoma is categorized as a genital leiomyoma; the exact cause of its development is unknown [6]. Scrotal leiomyoma is a rare form of leiomyoma that can arise from the epididymis, spermatic cord, tunica albuginea, or scrotal wall [4]. The tumor is always solitary, and grows slowly over time if not excised. Very few cases are reported in the literature. In a review article by Siegal and Gaffey, they describe only 11 cases in a review of 11,000 cases of scrotal tumors [7].

Case report

A 37-year-old man with a history of left inguinal hernia repair with mesh was referred to the urology service at our institution for evaluation of painless scrotal mass. He initially palpated the mass within his right hemiscrotum 1 year prior, and reported noticeable but minimal growth in the interim. The scrotal mass started to interfere with intercourse, prompting him to seek medical attention. He denied hematuria, dysuria, flank pain, urinary frequency, hesitancy, incontinence, or urgency. There was no history of additional surgeries or prior trauma. The patient reported no personal or family history of genitourinary malignancy. Physical examination revealed a mobile, firm, nontender, painless mass of approximately 5-6 cm in diameter within the inferior right scrotal sack. Testes on both sides were normal on palpation, without discrete mass or tenderness. There was no inguinal lymphadenopathy.

Imaging and diagnosis

Routine laboratory testing was performed, including complete blood count with differential, blood chemistry, serum α-fetoprotein, and β-human chorionic gonadotropin levels, all of which were within normal limits. Ultrasound of the scrotum revealed a 5.2-cm hypoechoic vascular mass within the right scrotal sack, corresponding to the palpable abnormality (Fig. 1A-C). The mass was circumscribed, oval in shape, and seen inferior to, and clearly separate from the adjacent right testicle,

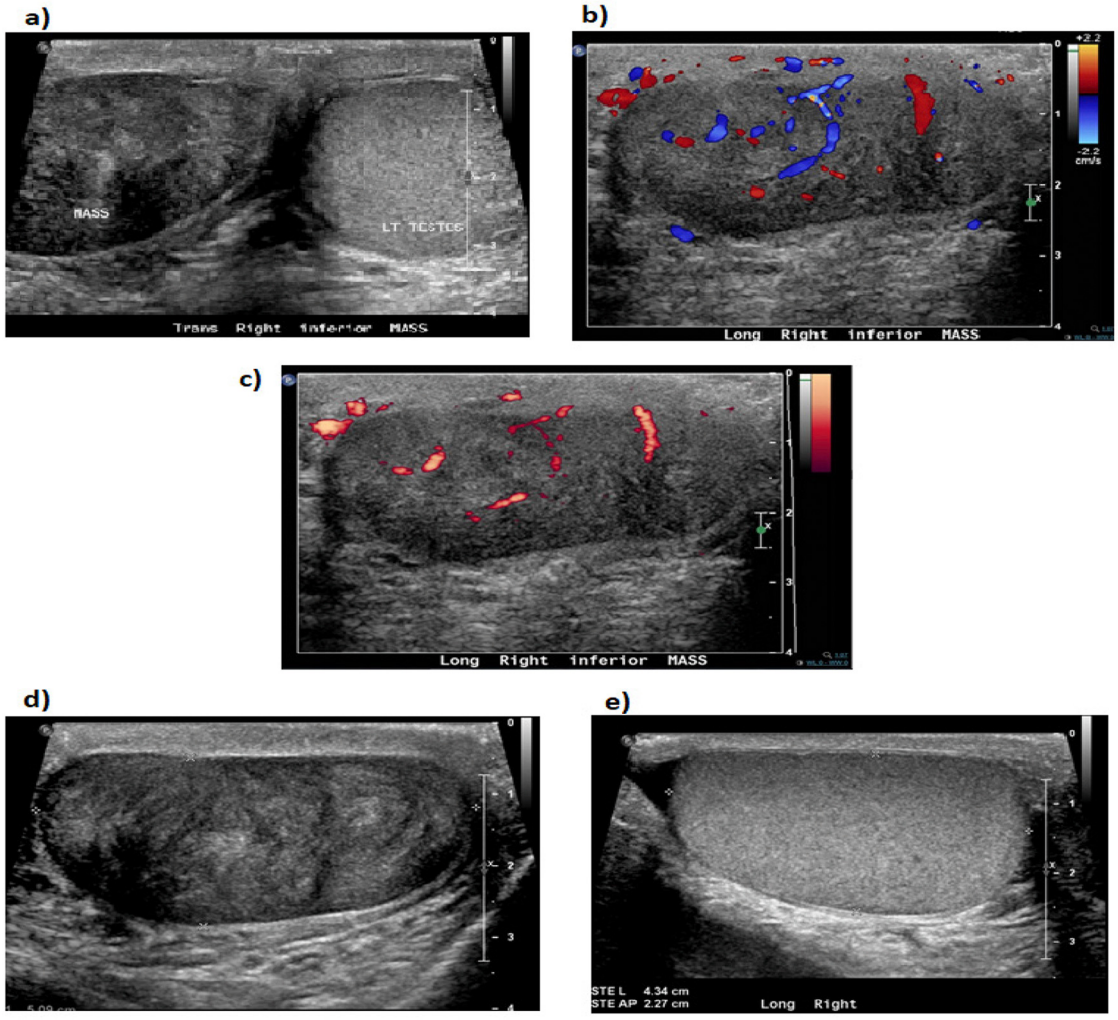

Fig. 1 – (A) Solid hypoechoic scrotal mass corresponds to the area of palpable concern by the patient and is different in echotexture when compared with the left testis in the same image. This mass was shown to be separate and inferior to the right testis (see panel E). (B) Color and (C) power Doppler ultrasound images show moderate vascularity within the mass. (D) Solid heterogeneous circumscribed oval mass in the right hemiscrotum is contrasted with (E) homogeneous echogenicity of the right testis.