Case Report

Leiomyoma of the epididymis treated with partial epididymectomy

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Abstract

Tumors of the epididymis are very rare, they are both primary and secondary and whether the benign or malignant. Adenomatoid tumors and leiomyoma are the most frequently diagnosed benign tumors of the epididymis. Leiomyomas are benign, often bulky tumors that are derived embryologically from mesenchymal cells. Herein, we present a case of epididymal leiomyoma and review its differential diagnosis and treatment.

Key Words: Epididymis, frozen section, leiomyoma, neoplasm, tomography, ultrasonography

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INTRODUCTION

Primary solid epididymal tumors are rare, representing 5% of intrascrotal neoplasms. Leiomyoma is the second most common neoplasm of the epididymis, representing 6% of primary epididymal tumors.[1] Nearly, 75% of epididymal tumors are benign. Most of them are adenomatoid tumors (73%), followed by leiomyoma (11%) and papillary cystadenoma (9%).[1,2] Epididymal leiomyomas are generally well-defined, surrounded by a gray-white fibrous capsule and are usually 1-4 cm in size. These tumors tend to be asymptomatic and painless and appear to occur with equal frequency on both sides.[3,4]

Bilateral lesions are extremely rare of symptoms (up to 10 years) and a slow-growing mass suggest a benign process. Although patient in this report had a scrotal mass for 2 months, patients with 10-, 20- or even 30-year histories prior to surgical excision have been described.[2-4] A case of leiomyoma of the epididymis in a 47-year-old patient, who was treated by partial resection of the epididymis is presented here.

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CASE REPORT

A 47-year-old man presented to our urology clinic with a painless right-testicular mass since approximately 2 months. On physical examination, a firm mass measuring 2 cm × 2 cm and involving the inferior portion of the right epididymis was found. The left testicle, right testicle and left epididymis looked normal on physical examination. Laboratory studies showed normal complete blood count, serum creatinine, electrolytes and liver function tests. The results of testicular tumor markers, including α-fetoprotein and β-human chorionic gonadotropin were within the normal limits. Ultrasound examination of the scrotum, Doppler ultrasound and scrotal tomography examination, surgical exploration and histologic examination of frozen sections were performed. Ultrasound examination of the scrotum revealed a solid, hypoechoic mass measuring 2 cm × 2 cm × 3 cm in the tail of the right epididymis [Figure 1]. Doppler ultrasound examination showed moderate blood flow to the mass. The mass did not involve the left testicle. Indeed, the left testicle, right testicle and body of the epididymis were completely normal.

The epididymal mass was explored through a midline scrotal incision; a solid, encapsulated mass appearing at the tail of

the epididymis was found. It was separated from the testis and did not extend into the cord. Surgical exploration revealed a discreet epididymal mass arising from a stalk, which was easily dissected from the epididymis. Histological examination of frozen sections of the mass suggested a benign spindle-cell proliferation. Given the histological findings, the decision was made to preserve the testicle and part of the epididymis while completely resecting the mass and contiguous epididymis. Final histological examination revealed a well-circumscribed mass composed of spindle cells with deeply eosinophilic, fibrillar cytoplasm [Figure 2]. No nuclear atypia, mitosis or necrosis were identified. Cells were arranged in intersecting fascicles. The appearance of a benign smooth-muscle tumor was confirmed by its strong cytoplasmic staining for desmin [Figure 3]. Ki-67 proliferation index was %2. The mass was classified as a pure leiomyoma arising from the epididymis. Patient was discharged 2 days after the operation; no evidence of local recurrence or distant metastasis was found during 3 years follow-up.

DISCUSSION

Epididymal tumors are rare. Leiomyoma is the second most common primary neoplasm of the epididymis. They are benign, often bulky tumors that are derived embryologically from mesenchymal cells.[5] Leiomyomas are also found throughout the genitourinary tract, in any organ containing smooth muscle. The most common site for leiomyoma in the urinary tract is the renal capsule after uterus.[6] Even the ureter, bladder, urethra, prostate, seminal vesicles, penis, epididymis, spermatic cord, tunica dartos, tunica albuginea of the testicle and the testicle may be involved.[7] They have been reported in patients from childhood to the ninth decade, but the most common age of presentation is in the fifth decade of life.

Ultrasound is a widely used imaging modality for patients with suspected scrotal abnormalities.[3,5] It is a non-invasive way to confirm the presence of a mass and to establish its location and characteristic features. The normal epididymis is situated postero-lateral to the testis. It has homogenous echotexture, which is isoechoic or slightly hyperechoic to that of the testis. The head of the epididymis is up to 10 mm thick while the body is usually <4 mm. The tail may not be seen as it is closely applied to the testis. Both solid and multicystic lesions have been described in scrotal leiomyomas.[7,8]

With ultrasound, cystic lesion of the epididymis such as epididymal cysts and spermatoceles are easily distinguished from solid lesions. Solid epididymal masses are however non-specific in appearance as neoplastic and inflammatory or granulomatous masses, have variable echogenicity and may appear relatively similar. The inflammatory or granulomatous disease to be considered in the differential diagnosis include:

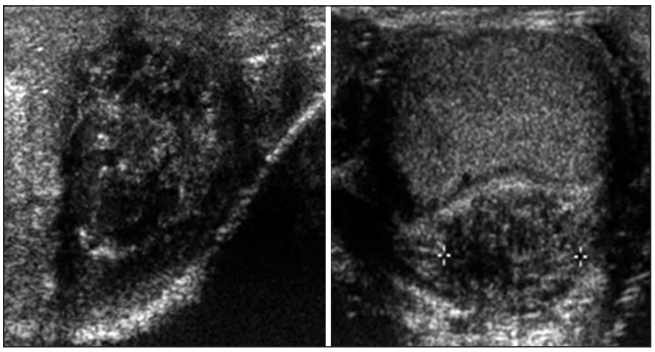

Figure 1: Doppler ultrasound. Ultrasound examination of the scrotum revealed a solid, hypoechoic mass measuring 2 cm × 2 cm × 3 cm in the tail of the right epididymis

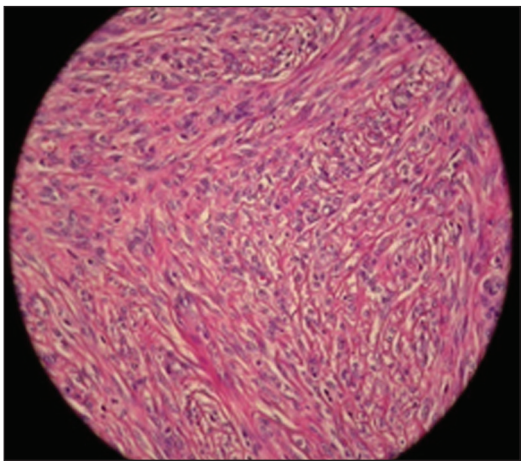

Figure 2: Fascicular pattern formed by cells showing smooth muscle bundles of spindle-shaped and oval nuclei (H and E, ×40)

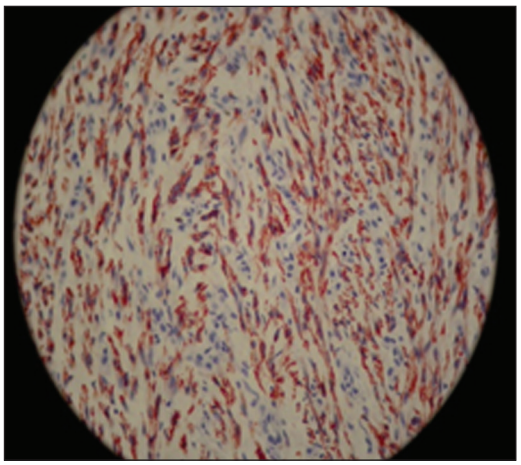

Figure 3: Immunohistochemical examination detected cells strongly positive for desmin (Desmin ×40)

Epididymitis, sperm granuloma, sarcoidosis and tuberculosis. As a rule, solid intra-testicular lesions have a high likelihood of malignancy (about 90-95%) while extra-testicular lesions are usually benign (about 3%).[1]

Extra-testicular scrotal masses are typically secondary to trauma, infection and inflammation, or benign neoplasms. Ultrasound can easily distinguish intra-testicular from extra-testicular lesions with an accuracy of 95-100%.[7] However, the true identity of epididymal leiomyoma is often masked until histologic study is made.[2]

If malignancy cannot be ruled out with gross examination and manual palpation removal of the testis is usually indicated. If the frozen section confirms the benign lesion as it is in our case, isolated epididymectomy can be performed.[5] Radical orchiectomy may be necessary in certain cases where a malignant tumor cannot reliably be excluded.[5,6]

The patient presented in this report, the mass was arising from a stalk, which was easily dissected from the epididymis. Furthermore, intraoperative fresh frozen section of the tumor and surrounding epididymal tail was free of malignancy. Consequently, we believe that simple surgical excision with primary closure is curative though we resected the contiguous epididymal tissue. Nevertheless, regular outpatient follow-up and ultrasound examination are still recommended.[9]

In conclusion, since ultrasound is not usually helpful to distinguish a paratesticular lesion from an intra-testicular lesion, inguinal exploration of the mass is necessary. Routine frozen section biopsy of a supposedly benign paratesticular lesion may help to allow testicular preservation.

REFERENCES

1. Beccia DJ, Krane RJ, Olsson CA. Clinical management of non-testicular intrascrotal tumors. J Urol 1976;116:476-9.
2. Spark RP. Leiomyoma of epididymis. Arch Pathol 1972;93:18-21.
3. Hertzberg BS, Kliewer MA, Hertzberg MA, Distell BM. Epididymal leiomyoma: Sonographic features. J Ultrasound Med 1996;15:797-9.
4. Leonhardt WC, Gooding GA. Sonography of epididymal leiomyoma. Urology 1993;41:262-4.
5. Bozlu M, Orhan D, Baltaci S, Müftüoğlu YZ, Tulunay O. Leiomyoma of the epididymis. Int Urol Nephrol 2000;32:95-6.
6. Chiaramonte RM. Leiomyoma of tunica albuginea of testis. Urology 1988;31:344-5.
7. Giyanani VL, Hennigan DB, Fowler M, Sanders TJ. Sonographic findings in leiomyoma of postorchiectomy scrotum. Urology 1985;25:204-6.
8. Frates MC, Benson CB, DiSalvo DN, Brown DL, Laing FC, Doubilet PM. Solid extratesticular masses evaluated with sonography: Pathologic correlation. Radiology 1997;204:43-6.
9. Chiong E, Tan KB, Siew E, Rajwanshi A, See H, Esuvaranathan K. Uncommon benign intrascrotal tumours. Ann Acad Med Singapore 2004;33:351-5.

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