Case Report

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Paratesticular Leiomyoma; A Rare Case Report

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Abstract

Paratesticular leiomyomas are rare tumors and originated from the subcutaneous smooth muscles and tunica dartos. Patients usually present with the complaint of a long-standing palpable painless mass and it is important to differentiate it from testicular masses. A 35-year-old male patient presented to our clinic with a palpabl mass, which he has realized since 15 year-old in scrotum that it growth 3-4 times over the last month. Physical examination revealed a palpable solid mass of approximately 3 cm, regular bordered, painless and localized inferiorly in the scrotum. Scrotal Doppler ultrasonography scan showed a 3x2.5 cm solid mass localized inferiorly in the scrotum, which has an internal blood supply. The inguinal exploration was planned due to malignancy risk. When the inguinal exploration was performed, we observed that the paratesticular mass was not connected with the testis. The mass, which was adherent to the scrotal skin, was excised together with the scrotal skin tissue with a safe surgical margin. In the pathology report, it was diagnosed as leiomyoma. The treatment for the vast majority of scrotal masses is radical inguinal orchiectomy. Testis preserving surgical procedures performing is critical for protecting both the fertility and the hormonal level of patients who have benign scrotal masses. Although physical examination suggests malignant neoplasms in patients presenting with a paratesticular mass, it should be kept in mind that benign neoplasms may also be present.

Keywords: Leiomyoma, scrotum, testicular neoplasms

Introduction

Leiomyomas are regular capsulled smooth muscle tumors that grow from the mesenchymal cells (1,2). Scrotal leiomyomas are usually localizated in testis, epididymis, spermatic cord and scrotal skin (2,3). Generally, clinic presentation is an asymptomatic, painless palpable mass in the scrotum (4). we describe in this study the diagnostic and treatment process of a patient who presented with an isolated paratesticular mass, which is rarely seen.

Case Report

A 35-year-old male patient presented to our clinic with a palpabl mass, which he has realized since 15 year-old in scrotum that it growth 3-4 times over the last month. In the patient's history, he is married and he has 4 children. Physical examination revealed a palpable solid mass of approximately 3 cm, regular bordered, painless and localized inferiorly in the scrotum. On palpation that mass is unrelated on testis (Figure 1). The bilateral testes, epidydimes, ductus deferenses and right scrotum skin were normal on physical examination. Scrotal Doppler ultrasonography scan showed a 3x2.5 cm solid mass localized inferiorly in the scrotum, which has an internal blood supply. Serum tumor markers (beta-human chronic gonadotropin, lactate dehydrogenase, alpha-fetoprotein) were within the normal range. The inguinal exploration was planned due to malignancy risk. We performed inguinal oblique incision and dissection; left testis and scrotal mass was found (Figure 2). We observed that the paratesticular mass was not connected with the testis. The mass, which was adherent to the scrotal skin, was

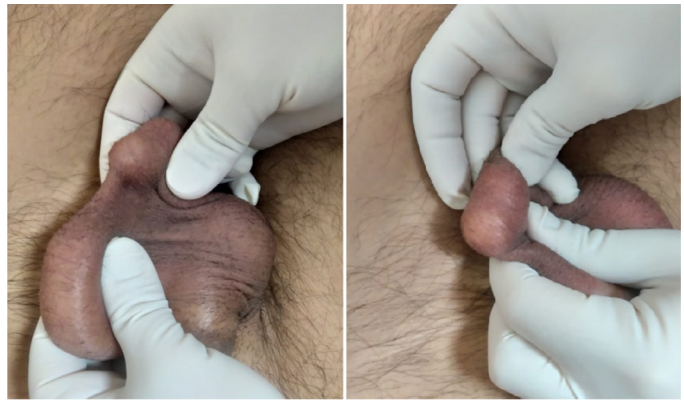

Figure 1. Testis and paratesticuler mass observed on physical examination

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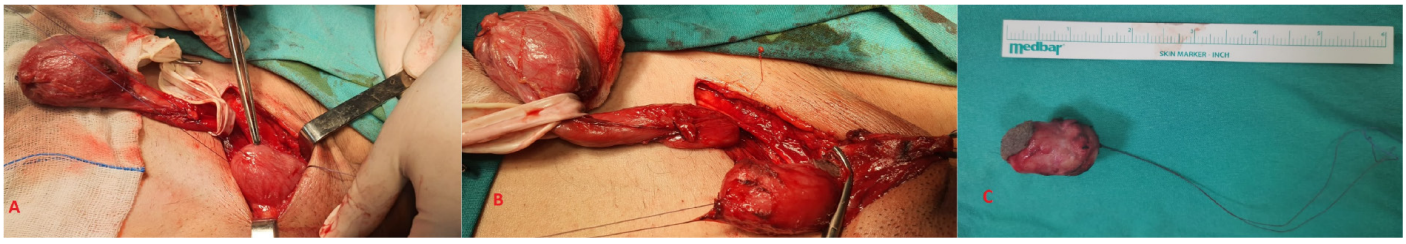

Figure 2. (A-B) Testis and scin-fixed paratesticular mass is seen seperately each other. (A) Mass shown with forceps. (B) Pulled with suture. (C) Paratesticular mass specimen

excised together with the scrotal skin tissue with a safe surgical margin. (Figure 2). The postoperative period was unevenful, and the patient day. In the pathology report there were seen desmin (+), SMA (+), CD34 (-), CD117 (-), Ki67 proliferative index 1% and diagnosed leiomyoma (Figure 3).

Discussion

Paratesticular masses constitute 2% of intrascrotal tumors and these 70% are benign, slow-growth tumors (5). The remaining 30% are malign tumors and the majority are sarcomas. The most common malignant tumor is rhabdomyosarcoma. Benign tumors are; lipoma, adenomatoid tumors, leiomyoma and neurofibroma (4).

As in our case, paratesticular leiomyomas are painless with palpation and long existing scrotal masses. However, it can be seen at all ages, most commonly observed in the fourth and 5th decades (6). In scrotal pathologies; ultrasonography is used as the first-line imaging method in diagnosis cause of it has high sensitivity. Also, it is cost-effective and reachable (7). But in paratesticuler masses, ultrasonography images may be variable and not be specific. Magnetic resonance imaging (MRI) can recognize cysts, lipomas and it can reveal invasion to the surrounding structures, and internal seatures of the lesion (8). MRI is a more sensitive and accurate imaging modality for the detection and localization of leiomyomas (9).

Leiomyomas originated from subcutaneous smooth muscles and tunica dartos. As in our case it can appear a mass that isolated in the paratesticular region, independent of the testis, solitary, growing over the years. According our literature review; there are eight paratesticular leiomyoma cases have been reported and our case is one of the that rarely clinical condition (1,3,7,8,10,11,12,13).

A total excision of the mass should be performed for diagnosis and treatment. If the risk of malignancy is high, it can intraoperative frozen examination applied. Thus situation of malignancy retraction, can perform organ-preserving surgery.

Leiomyomas are macroscopicly encapsulled and regular-bordered masses, as in this study. In Microscopic there are fibrous, hyalinized connective tissues, smooth muscle spindles arranged in bundles to be seen (4). Leiomyomas have characteristic features, which can be recognized than the other paratesticuler masses in immunohistochemical investigations. As our case's pathological evaluation; positive staining for SMA and desmin was important to confirm the diagnosis of leiomyoma. To exclude neurofibroma and schwannoma, S-100 negativity

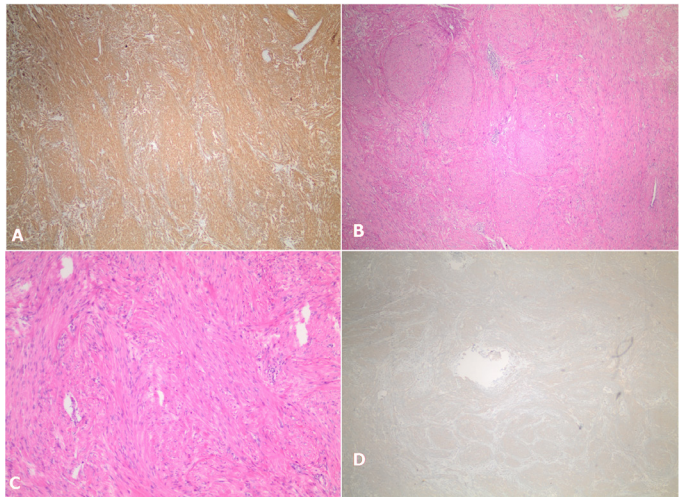

Figure 3. (A) Diffuse desmin (+) cells (x4). (B) Mesenchymal smooth muscle cells composed of spindle cells in Hematoxin-Eosin staining (x4). (C) Mesenchymal smooth muscle cells composed of spindle cells in Hematoxin-Eosin staining (x40). (D) Diffuse SMA (+) cells (x4)

is necessary. Also, low mitotic activity Ki67 (Ki67 proliferation index) is related to leiomyoma (8).

Consequently, in the differential diagnosis of paratesticular leiomyomas, there are both intratesticular and extratesticular benign, malignant tumors. Paratesticular leiomyomas are non-invasive slow-growing rarely observed tumors (5). A differential diagnosis of malignant tumors should be carefully made. MRI and intraoperative frozen examination should be performed if there is in case doubt.

Conclusion

The treatment for the vast majority of scrotal masses is radical inguinal orchiectomy. Testis preserving surgical procedures performing is critical for protecting both the fertility and the hormonal level of patients who have benign scrotal masses. Although physical examination suggests malignant neoplasms in patients presenting with a paratesticular mass, it should be kept in mind that benign neoplasms may also be present.

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Ethics

Ethics Committee Approval: The University of Health Sciences Turkey, Diskapi Yildirim Beyazit Training and Research Hospital Clinical Research Ethics Committee approved the study protocol (decision number: 130/12, date: 07.02.2022).

Informed Consent: Informed consent was obtained from the patient.

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Authorship Contributions

Concept: B.Y.E., Design: B.Y.E., H.M.D., A.E.D., Supervision: H.S., F.Y., Data Collection, or Processing: A.K., Literature Review: A.K., H.S., Writing: B.Y.E., H.M.D., A.E.D., H.S., Critical Review: F.Y.

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