



Testicular epidermoid cyst

Basri Çakıroğlu, Nurettin Cem Sönmez, Orhun Sinanoğlu¹, Lora Ateş², Süleyman Hilmi Aksoy³, Faruk Özcan

ABSTRACT

Epidermoid cyst of the testis is a benign, non-teratomatous tumour. It is often possible to make the diagnosis pre-operatively, combining typical sonographic features with normal biochemical tumour markers. The accurate pre-operative diagnosis will allow for testis-sparing surgery and prevent unnecessary orchiectomy. An 11-year-old boy with testicular epidermoid cyst who presented with pain in testis was presented in this report.

Keywords: Epidermoid cyst, organ sparing surgery, testis, tumour

INTRODUCTION

Testicular epidermoid cyst is very rare non-teratomal benign tumour of the childhood with no known metastasis in the current literature. The first case report for testicular epidermoid cyst was published by Dockerty and Priestly in 1942.^[1] It is difficult to differentiate the epidermoid cyst from malign testicular tumour. In order to prevent unnecessary orchiectomy, the diagnosis of this rare childhood tumour has to be certain within testis sparing surgery being an option for management. We report a case of 11-year-old boy with epidermoid cyst of the testis with testis sparing surgery was done as a management.

CASE REPORT

An 11-year-old boy with the complaints of left testicular pain and lump was admitted to urology polyclinic. In physical examination, left testis was extremely fragile and a palpable hard nodule was detected while the right testis was completely normal. Serum alpha-fetoprotein,

beta-HCG and LDH was done and the results were between normal range limits. Urinary ultrasound was normal and left testis was detected larger than the right testis in scrotal sonography. The contours of the testes were smooth and parenchymal echo and structure was natural. Heterogeneous irregular mass lesion 8.3 mm × 7.2 mm in size with hyperechoic internal structure with hypoechoic centre was detected in the left testis. Doppler sonography revealed vascular flow in the central part of the lesion. The mass was diagnosed as a testicular tumour primarily [Figure 1]. In pelvic MR investigation, 7 mm round mass with minimal low intensity contrast enhancement indistinguishable from normal testicular parenchyma in T1- and T2-weighted images was detected [Figure 2]. Lesion was in testicular parenchyma without marked invasion into the capsule, with these diagnostic and clinical findings, left scrotal exploration was done: Testicular mass was taken and sent for frozen section investigation and the operation was terminated while the surgical margins were mass-free. In pathological investigation, benign cystic lesion covered with multilayer squamous epithelial cells with granular margin coated inner layer and lamellar type keratinisation in the lumen

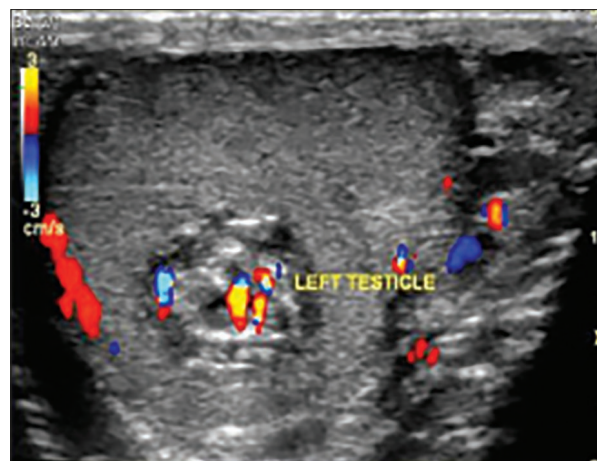


Figure 1: Left testicular irregular mass lesion with heterogeneous hypoechoic internal structure with hyperechoic areas in it. Vascular flow detected at the central part of the lesion in Doppler ultrasound examination

Departments of Urology, ²Pathology, and ³Radiology, Hisar Intercontinental Hospital, ¹Maltepe University, İstanbul, Turkey

Address for correspondence:

Prof. Basri Çakıroğlu, Department of Urology, SarayMh., Siteyolu Cad. No:7, Ümraniye-İstanbul, Turkey.
E-mail: drbasri@gmail.com

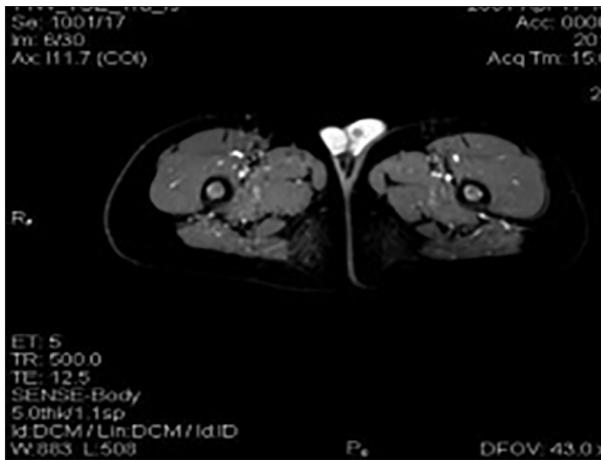


Figure 2: In pelvic Magnetic resonance investigation, 7 mm. round mass with minimal low intensity contrast enhancement indistinguishable from normal testicular parenchyma in T1- and T2-weighted images

was found. In testicular parenchyma around the cystic structure, seminiferous tubules with varying degrees of maturation containing spermatocyte and spermatogonia and sertoli cells were observed.

Seminiferous tubules with similar maturation stages were seen in the sections taken from the cystic structure's base. Signs of malignancy were not detected in whole investigation of the specimen.

DISCUSSION

Epidermoid cysts are benign lesions occurring on the skin usually however, it rarely occurs in intratesticular area. The epidermoid cysts of the testis are benign lesions among 3% of all paediatric testicular tumours and less than 1% of all childhood testicular tumours.^[2,3] The histologic properties of epidermoid cysts are similar with skin's epidermoid cysts. An epidermoid cyst of the testis may actually be a non-teratomatous benign tumour based on the absence of atypical intratubular germ cells (testicular intraepithelial neoplasia or carcinoma *in situ*) that are often detected in adjacent seminiferous tubules of adult patients with teratomas or germ cell tumours.^[2,4] The sonographic properties of epidermoid cysts are similar with the gross pathological findings. In testicular sonographic, features includes a sharply defined mass with a hyperechoic rim and an "onion ring" appearance of alternating hypoechogenicity and hyperechogenicity representing layers of compacted

keratin and desquamated squamous cells.^[5] Magnetic resonance imaging (MRI) is another diagnostic tool for epidermoid cyst. On MRI, the outer fibrous capsule, epithelial lining and adjacent compact keratin produce peripheral low signal intensity; the dense debris and calcification produce central low signal intensity; and the desquamated cellular debris containing both high water and lipid contents produce a mid-zone of high signal intensity on both T1- and T2-weighted images.^[6] By the pioneer study done by Stoll *et al.* in 1986, testis-sparing surgery being a popular treatment modality for small (>2 cm) testicular masses.^[7,8] In our case, the size of the mass was 7 mm masses and pre-operative frozen section study was done and testis sparing surgery was performed.

As a conclusion, epidermoid tumours are rare tumours of the childhood with no known metastatic ability. When radiological and biochemical parameters confirms the diagnosis of epidermoid cyst conservative testicular-sparing surgery may be prefer able to an orchiectomy.

REFERENCES

1. Dockerty M, Priestly JY. Dermoid cysts of the testis. *J Urol* 1942;48:392-7.
2. Dieckmann KP, Loy V. Epidermoid cyst of the testis: A review of clinical and histogenetic considerations. *Br J Urol* 1994;73:436-41.
3. Hricak H, Hamm B, Kim BH. Testicular tumors and tumorlike lesions. In: Hricak H, Hamm B, Kim BH, editors. *Imaging of TheScrotum: textbook and Atlas*. New York: Raven;1995. p. 49-93.
4. Aguilera Tubet C, López Rasines G, Roca Edreira A, Martín García B, Hernández Rodríguez R, Portillo Martín JA, et al. Testicular epidermoid cyst: Uncommon lesion of difficult preoperative diagnosis. *ActasUrolEsp* 2005; 29:905-8.
5. Cho JH, Chang JC, Park BH, Lee JG, Son CH. Sonographic and MR imaging findings of testicular epidermoid cysts. *AJR Am J Roentgenol* 2002; 178:743-8.
6. Langer JE, Ramchandani P, Siegelman ES, Banner MP. Epidermoid cysts of the testicle: Sonographic and MR imaging features. *AJR Am J Roentgenol* 1999; 173:1295-9.
7. Stoll S, Goldfinger M, Rothberg R, Bucksman MB, Fernandes BJ, Bain J. Incidental detection of impalpable testicular neoplasm by sonography. *AJR Am J Roentgenol* 1986; 146:349-50.
8. Bucksman MB, Klotz PG, Goldfinger M, Stoll S, Fernandes B. Intraoperative ultrasound in the conservative resection of testicular neoplasms. *J Urol* 1989; 141:326-7.

Cite this article as: Çakıroğlu B, Sönmez NC, Sinanoğlu O, Ateş L, Aksoy SH, Özcan F. Testicular epidermoid cyst. *Afr J Paediatr Surg* 2015;12:89-90.

Source of Support: Nil. **Conflict of Interest:** None declared.