

# Epidermoid Cyst of the Testis in a 6-Year-Old Boy With Increased Serum LDH

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**Introduction:** Epidermoid cyst of the testis is a rare benign tumor. Controversies exist with regards to the management of these cysts. Whilst some surgeons have performed radical orchidectomy, others adopt a conservative approach.

**Case report:** We have reported a case of epidermoid cyst in the left testis in a six-year-old male who presented with a painless hard mass in the upper pole of the left testis with increased serum LDH and uncertain ultrasound features, which was treated by radical orchidectomy.

**Conclusions:** Our reported case did not have the classic epidermoid cyst imaging features and additionally had an elevated serum LDH level therefore we decided to perform an inguinal radical orchiectomy.

**Keywords:** Cyst; Testis; LDH

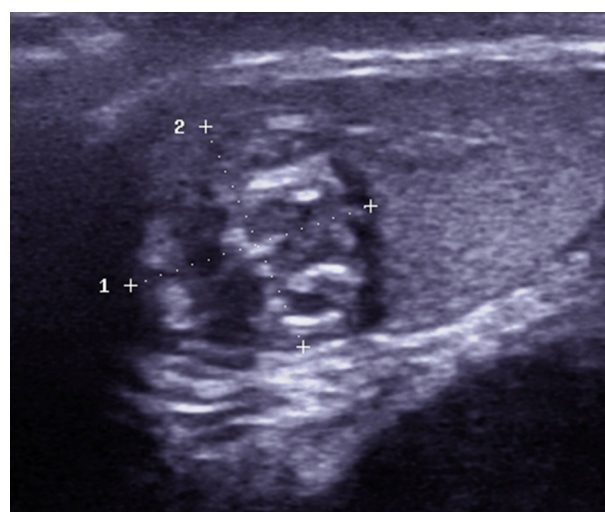
## 1. Introduction

Epidermoid cyst of the testis is a rare benign lesion that comprises approximately 1% of all testicular tumors that are considered very rare in the pediatric age group (1). Because of the rarity of the lesion the unaccustomed practitioner may be unfamiliar with its diagnosis and management. The clinical diagnosis of this tumor poses a major challenge because the clinical course is indistinguishable in behavior from a malignant tumor and it cannot be differentiated reliably from the more common malignant testicular mass on clinical examination. Usually the typical epidermoid cyst pattern in ultrasound is an onion-skin pattern, with normal tumor markers. We present an unusual case in a six-year-old male with raised serum LDH.

## 2. Case Report

A six-year-old male was referred for a painless left testicular mass. The mass was recently discovered by his mother. Physical examination revealed no evidence of lymphadenopathy or gynecomastia. Tumor marker levels except for LDH (750 units/L) were normal. Testicular ultrasound (US) revealed a  $1 \times 0.8 \times 2$  cm solid mass within the upper pole of the left testis with heterogeneous echogenicity (Figures 1 and 2). The surrounding parenchyma and left epididymis were normal. The patient also had a normal chest radiograph. The patient underwent surgery and an inguinal orchiectomy was performed. The final diagnosis of epidermoid cyst was based according to histo-

pathological examination (Figure 3). His postoperative course was uneventful and after one week, the LDH levels decreased to 25 units/L. At gross examination, the specimen consisted of a testis that measured  $2.5 \times 1.5 \times 2$  cm with an attached spermatic cord 8 cm in length. Bisection of the left testis revealed a hard white lesion within the upper pole testicular parenchyma. The lesion was well encapsulated and sharply delineated from the surrounding parenchyma (Figure 2).



**Figure 1.** Ultrasound (US) Image of the left Testis Shows a well-Circumscribed Intratesticular Mass (Cursors) in The Upper Medial Aspect of The Testis

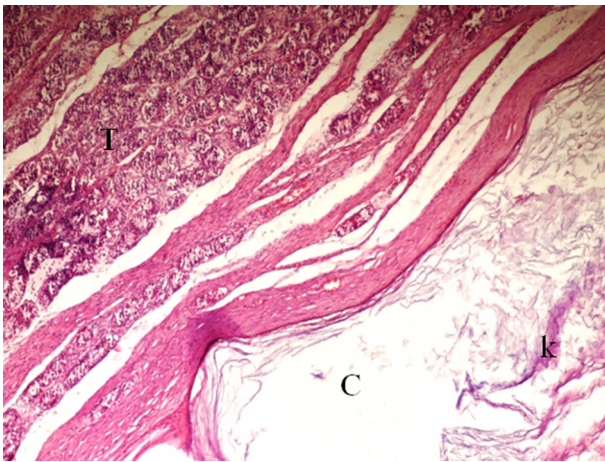
### Implication for health policy/practice/research/medical education:

The present study would be interesting for andrologists and endocrinologist.

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**Figure 2.** Photograph of the Sectioned Surgical Specimen Shows a Smooth White Mass (Arrow)



**Figure 3.** Low-Power Photomicrograph (Original Magnification: 80x; Hematoxylin-Eosin Stain) Shows Immature and Prepubertal Normal Testis (T) and an Epidermoid CYST (C). The Lumen of The Cyst Contains Keratinized Debris (k).

### 3. Discussion

Epidermoid cyst of the testis is a rare but benign lesion that has a controversial histologic origin; therefore, clinical management of the cyst has been controversial during the past decades (2, 3). First described in 1942 by Dockerty and Priestley (4), epidermoid cysts account for 1%–2% of all testicular lesions. The majority of patients are young (2nd to 4th decades of life), although this cyst has been reported in patients, 3 to 77 years of age (2, 3, 5). The reported cases have occurred in Caucasians and Asians. There is a slightly higher prevalence in the right testis (2, 5, 6). Only one case report of bilateral epidermoid cysts has been reported,

whereas there were four reported cases of multiple cysts (1, 4). Patients with multiple cysts were also diagnosed with Gardner syndrome, Klinefelter syndrome (two cases), and one case with a microscopic focus of primary carcinoid tumor in the cyst wall (2, 3, 5). Multiple cysts have been occasionally observed in the cryptorchid testes (2, 3).

The clinical manifestation of epidermoid cysts is indistinguishable from that of the much more common malignant germ cell tumor. Most patients are asymptomatic, with the mass being detected either at self-examination or during physical examination as a smooth, firm, painless mass with a mean diameter of 2–3 cm. A minority of patients experience scrotal pain, scrotal enlargement, or vague discomfort (2, 6). Ultrasound has been the mainstay for the preoperative diagnosis of epidermoid cysts and reveals a well-circumscribed, intratesticular lesion with normal surrounding testis. The lesion can contain a hypoechogenic concentric ring surrounding an echogenic center, with or without a hyperechogenic rim (bull's-eye or target appearance), or it can contain alternating hypoechogenic and hyperechogenic concentric rings (onion ring appearance) (7). The management of the lesion has also been controversial, as reflected by the different theories of origin. However the treatment of choice for intratesticular epidermoid cyst is excision of the cyst with the surrounding testicular parenchyma to ensure there is no accompanying teratomatous component or malignant germ cell neoplasia. Although the prevailing thought was that orchiectomy was necessary to arrive at a histologic diagnosis, currently numerous reports have stated that an epidermoid cyst can be properly diagnosed on the basis of the specific imaging features, as reported earlier in some patients with negative tumor markers ( $\alpha$ -fetoprotein and  $\beta$ -human chorionic gonadotropin) and a lesion smaller than 3 cm. In these cases, if the frozen sections of the lesion determine it to be an epidermoid cyst and if two biopsies from the surrounding parenchyma show no testicular intraepithelial neoplasia, the patient will go under conservative surgery. (3, 5–7).

Our reported case did not have the classic epidermoid cyst imaging features and additionally had an elevated serum LDH level; therefore we decided to perform an inguinal radical orchiectomy.

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There is no conflict of interest.

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