BILATERAL EPIDERMOID CYSTS OF THE TESTIS: REPORT OF A CASE WITH PRESERVATION OF 1 TESTIS

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ABSTRACT

Epidermoid cysts of the testis are rare, benign lesions. Of approximately 200 reported cases only 1 was bilateral. We report a case of bilateral epidermoid cysts treated with preservation of a testis. Diagnostic criteria, ultrasound evaluation and surgical management are discussed. The potential for testicular conservation is emphasized.

KEY WORDS: cysts, testicular neoplasms, ultrasonography, epidermal cyst

Simple epidermoid cysts are benign lesions that occur in early adult life and comprise approximately 1% of all testicular tumors. Bilateral testicular tumors are rare clinical entities more commonly seen in lymphoma than in primary germ cell carcinoma. We report a case of bilateral epidermoid cysts of the testis, which were excised with preservation of 1 testis.

CASE REPORT

An 18-year-old white man was evaluated for a left testicular mass. There was no history of trauma, dysuria or weight loss. Medical history was essentially negative. Ultrasound revealed a 1.5 cm. solid mass on the upper lateral margin of the left testicle and a 1.4 cm. solid mass in the middle of the right testicle. Physical examination confirmed the presence of a 2 cm. nontender, hard mass with an irregular surface on the upper pole of the left testicle and a 1.5 cm. hard mass with a smooth surface in the middle of the right testicle. Radiological examination, including excretory urography, and abdominal and chest computerized tomography, was within normal limits. Urinalysis was normal, and a-fetoprotein and B-human chorionic gonadotropin levels were normal.

Inguinal exploration of the left testicle confirmed the presence of a hard mass in the upper pole beneath the tunica albuginea. Left radical orchiectomy was done. Frozen section diagnosis was epidermoid cyst of the testis. Exploration of the right testicle revealed a similar mass in the middle portion, beneath the tunica albuginea. The mass was enucleated, and the testis was repaired and placed back in the scrotum.

Pathological findings. Gross pathological examination of the left testicle showed a well circumscribed 1.5 cm. nodule within the testicular parenchyma containing flaky yellow-white material. The mass enucleated from the right testicle was a white cyst 1 cm. in diameter that appeared similar to the mass on the left side. Microscopic examination confirmed that both masses were epidermoid cysts containing laminated keratin and lined by keratinizing squamous epithelium (see figure). The epithelial lining ranged from flattened cells to well formed, stratified squamous mucosa. The cyst walls showed areas of hyalinization, focal calcification and lymphocytic infiltration. No appendage structures were present and there was no evidence of scar formation. The surrounding testicular parenchyma demonstrated focal mild compression atrophy but was normal further away.

DISCUSSION

Since the first description of epidermoid cysts of the testis by Dockerty and Priestley in 1942, approximately 200 cases have been reported. One case was bilateral and all others
were unilateral. One report described multiple epidermoid cysts involving 1 testicle, while the opposite testicle had a malignant mixed germ cell tumor.4

Clinically, most patients were asymptomatic, although localized discomfort has been reported.5 Price defined strict criteria for the diagnosis of an epidermoid cyst in the testis.1 The cyst should be within the parenchyma of the testis, the cyst wall should be composed of fibrous tissue with a complete or incomplete lining of squamous epithelium, the cyst should contain keratin, no teratomatous elements or adnexal structures should be identified within the cyst wall or the testicular parenchyma and there should be no scar in the testicular parenchyma to suggest teratoma or implantation of squamous epithelium. The histogenesis of epidermoid cysts is uncertain but the prevailing theory is that they are of germ cell origin and represent monodermal teratomas.6

To our knowledge there is no reported association of epidermoid cysts of the testis with epidermoid cysts of the skin or other organs. They are benign and do not recur after excision.

While some surgeons advocate orchiectomy for the treatment of these cysts, others encourage testis sparing enucleation of the cyst.7 Ultrasonic examination is useful in confirming a solitary cyst within the testicular parenchyma. However, the appearance is not specific and ultrasound cannot reliably separate epidermoid cyst from teratoma.7,9 The cyst is characteristically well defined and the wall may be hyperechoic due to focal calcification. The center may appear solid or cystic with varying degrees of echogenicity imparted by the keratin debris in the cyst lumen.9

Testis sparing may be considered in the clinical setting of a small, intratesticular mass with negative serum tumor markers (β-human chorionic gonadotropin and α-fetoprotein) and an ultrasound appearance consistent with epidermoid cyst. If the characteristic gross appearance of a distinct, well encapsulated, moderately soft mass is present, it may be excised and sent for frozen section examination. Diagnosis is based on the aforementioned criteria as defined by Price,1 with particular attention to the absence of skin appendage structures or other evidence of teratoma. Adjacent testis should be evaluated by frozen9 or permanent section.6

Some physicians use testis conserving surgery routinely, while others argue that in the postpubertal patient it should be used only if the contralateral testis is abnormal or absent.8 In our patient, after the first testis was removed with diagnosis of epidermoid cyst, the second testis was preserved with local excision of the cyst and frozen section confirmation of the diagnosis.

In conclusion, epidermoid cyst is increasingly being recognized. Awareness of the existence of this entity and the criteria for differential diagnosis will enhance the possibility of testicular preservation.

REFERENCES