Missed Diagnosis

Intratesticular epidermoid cyst

I. Anjum and S.G.E. Barker

Department of Surgery, Kent and Sussex Hospital, Tunbridge Wells, Kent, UK

Introduction

Epidermoid cysts of the testis are rare. They were first described in 1942 by Docherty and Priestly¹ although the criteria by which a reliable diagnosis could be made were not established until 1969.² To date, just over 150 cases have been described in the world literature. We present the case of a young man with a painful, swollen testis and discuss the challenging opportunity for accurate diagnosis and hence conservative surgery.

Case report

A 19 year old, previously fit man presented with a seven day history of a painful, swollen left testicle. There was no suggestion of infection or trauma. A two centimetre diameter, hard nodule was palpable in the lower pole of the left testis. The right testis was normal. Tumour markers (alpha-fetoprotein and beta-human chorionic gonadotrophin) and a chest X-ray were normal. Pre-operative ultrasound revealed a solid mass within an otherwise normal testis, together with several small foci of calcification.

A diagnosis of testicular tumour was made and via a left inguinal incision, the testis was delivered through the wound after clamping of the spermatic cord. An orchidectomy was then performed. On sectioning, the testis contained a cyst within the tunica albuginea surrounded by testicular parenchyma, filled with yellow pultaceous material. Part of the wall was calcified. Pathological examination showed that the cyst was lined with squamous cells, with no skin appendages seen. Atrophic seminiferous tubules were immediately deep to the cyst wall. The remaining testicular tissue was entirely normal.

Recovery from operation was uncomplicated. The patient later had a prosthetic testicular implant.

Discussion

Benign epidermoid cysts of the testis are rare and comprise less than 1% of all testicular tumours. Patients usually present between the ages of 20 and 40 years, although cases have been reported in both children and the elderly.² The most common presentation is with painless testicular enlargement (40%) or detection of a mass upon routine clinical examination (35%). Pain, with or without a testicular swelling, accounts for 15% of cases. On physical examination a discrete mass is felt in 75% of cases, although two cases have been recorded in cryptorchid testes.³

Although epidermoid cysts were first described in 1942, it was not until the review of 69 cases from the American Testicular Tumor Registry by Price in 1969² that the following pathological criteria for a reliable diagnosis were established:

- The lesion is within the testicular parenchyma.
- The wall of the cyst is composed of fibrous tissue with a complete or incomplete inner lining of squamous epithelium.
- The cyst lumen contains keratinized debris.
- No teratomous elements or adnexal structures such as sebaceous glands or hair follicles should be present within the cyst wall or within the testicular parenchyma.

Cysts are on average two centimetres in diameter (range from 0.5 to 4.5 cm). They are sharply circumscribed or encapsulated with a thin wall (1.0–4.0 mm). The wall has foci of calcification. Contents are firm and yellow or white and most cysts are unilocular.²

The overriding suspicion of a testicular tumour, as in this case, usually leads to an orchidectomy being performed. However, the pre-operative findings of normal tumour markers, chest X-ray and calcification on ultrasound, should raise the possibility of a benign lesion. Shah³ has previously discussed the role of local excision or simple enucleation based upon gross morphological examination of the cyst at operation, combined with frozen section examination. Of 24 cases treated in this fashion, no cases of cyst recurrence,

Correspondence: S.G.E. Barker, B.Sc., F.R.C.S., Department of Surgery, The Rayne Institute, 123 Coldharbour Lane, Camberwell, London SE5 9NU, UK.
Accepted: 20 May 1992

malignant change or metastases have been recorded, with maximum follow-up at 35 years. Others comment that pre-operative frozen sectioning, whilst suggestive, may not be adequate to rule out the possibility of other tissue elements being present that would therefore negate a diagnosis of benign epidermoid cyst.⁴

Garty⁵ has described a further method of pre-operative investigation which would allow testicular preservation—radionuclide blood pool scintigraphy of the scrotum. Here, an avascular ('cold') area consistent with a benign tumour may be

demonstrated (in contrast to an expected 'hot' testis in cases of malignancy). Brown⁶ comments on the role of ultrasound and, as in our case, notes calcification to be suggestive of a benign lesion.

The presence of a hard nodule within a testis is of course most likely to represent a malignant tumour. However, we feel that if pre-operative investigations reveal normal tumour marker levels and show foci of calcification on ultrasound, then a conservative approach may be adopted at the time of surgery (including frozen section examination), allowing testicular preservation.

References

1. Docherty, M.B. & Priestly, S.T. Desmoid cysts of the testis. *J Urol* 1942, **48**: 392–400.
2. Price, E.B. Epidermoid cysts of the testis: a clinical and pathological analysis of 69 cases from the Testicular Tumor Registry. *J Urol* 1969, **102**: 708–713.
3. Shah, K.H., Maxted, W.C. & Chun, B. Epidermoid cysts of the testis: a report of three cases and an analysis of 141 cases from the world literature. *Cancer* 1981, **47**: 577–582.
4. Buckspan, M.B., Sheldon, S.C., Klotz, P.G. & Pritzker, K.P.H. Epidermoid cysts of the testicle. *J Urol* 1985, **134**: 960–961.
5. Garty, I., Chaimovitch, G., Wajzman, S. & Sudarsky, M. The radionuclide scintigraphic appearance in a rare case of epidermoid cyst of the testis. *Clin Nucl Med* 1984, **9**: 582.
6. Brown, R.B. The management of testicular epidermoid cysts and other benign intra-tunica albuginea testicular tumours with particular reference to scrotal ultrasound studies. *Aust NZ J Surg* 1984, **54**: 229–232.