Testicular Epidermoid Cyst - Is Pre-Operative Diagnosis Possible?

Sqn Ldr P F Mason
MB, ChB, FRCS(Ed), RAF
Career Registrar in Surgery

Gp Capt M Mahoney
MB, ChB, FRCS(Glasg), RAF
Consultant in Surgery

Cade Oncology Unit, Princess Mary’s Royal Air Force Hospital, Halton, Aylesbury, Bucks HP22 5PS

SUMMARY: A case of testicular epidermoid cyst which had initially been misdiagnosed as a malignant testicular tumour is presented. The role of clinical and ultrasound examination in the pre-operative assessment is discussed. Although the benign nature of this condition must be demonstrated histologically before conservative surgery is contemplated, it is equally important that the patient should not be told that the tumour is malignant without adequate evidence.

Case Report
A 30 year old ‘fast jet’ pilot presented with a 10 day history of an asymptomatic right testicular swelling. He had recently been treated successfully for an episode of non-specific urethritis, but was otherwise completely well. Clinical examination confirmed the presence of a tender 2.5cm lesion in the inferior pole of the right testis. Prior to his admission, the patient has been counselled in another hospital and informed he had a malignant tumour requiring immediate orchidectomy, followed by long-term chemotherapy and radiotherapy. No consideration during this counselling had been given to the profound financial and career implications, which this would have for his future as a serving military aviator. Ultrasound examination showed a well demarcated mixed echo lesion. Alpha fetoprotein (AFP) and Beta human chorionic gonadotrophin (BHCG) levels were within normal limits. Pre-operative chest radiography was also normal. The left testis was explored through an inguinal incision and after clamping the spermatic cord, a homogeneous cheesy-white laminated lesion was identified on incising the tunica albuginea. As frozen section facilities were not available at the time, a formal high inguinal orchidectomy was performed. Histologically the lesion consisted of a thin fibrous wall, lined by keratinising squamous epithelium. The lesion contained keratinous debris, the adjacent testis, epididymis and spermatic cord were normal. The lesion was diagnosed as an epidermoid cyst of the testis. After the benign nature of the condition had been emphasized the patient was discharged with review limited to consideration of testicular prosthesis.

Comment
Testicular epidermoid cysts are well described clinical entities comprising about 1% of testicular tumours (1). They are thought to represent unilateral development of a teratoma. Conventional treatment is radical orchidectomy owing to the difficulty in distinguishing epidermoid cyst from the more common malignant germ cell tumour. Local excision after intra-operative frozen section has satisfied rigid histological criteria in the preferred treatment as these lesions have never been known to recur. Pre-operative suspicion of the diagnosis therefore needs to be aroused to achieve testicular preservation.

Presentation with a history of a testicular lump which has shown no tendency to increase in size and is intraparenchymal, should alert the clinician. Ultrasonically, a hypoechoic lesion containing intracystic echogenic areas with a sharply defined hyperechoic border - the so-called target lesion - is highly suggestive of epidermoid cyst (2). A similar target appearance has been noted on magnetic resonance imaging, however, this would be an inappropriate investigation in the majority of patients. Accompanied by normal tumour markers, these findings should encourage the surgeon to locally excise the lesion with a cuff of testicular tissue, after clamping the spermatic cord. If the macroscopic appearance of the tumour is consistent with epidermoid cyst, testicular repair can then be performed provided frozen section studies confirm the diagnosis. The testicular loss in patients with benign tumours can be reduced from 80% to 30% by observing these principles (3).

Germ cell malignancy and orchidectomy cause considerable psychological anguish. Any procedure which reduces testicular loss in these predominantly young patients, is to be encouraged. Our case also illustrates the danger of pre-operative counselling on the assumption of malignant disease prior to tissue diagnosis, and this practice is to be deprecated.

REFERENCES