CASE REPORT

Intrascrotal extratesticular epidermoid cyst

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ABSTRACT. Epidermoid cysts are rare tumours, which account for 1% of all testicular tumours. Very rarely, they are intrascrotal but extratesticular. We present a rare case of an intrascrotal extratesticular cyst. The triad of findings were sonographic appearance of an onion ring, avascularity on Doppler sonography and negative results of tumour markers; these are highly suggestive of an epidermoid cyst.

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High-resolution sonography is an ideal imaging modality for evaluating a scrotal mass. Epidermoid cysts account for 1% of all testicular tumours detected [1]. Extratesticular epidermoid cysts are very rare, with few case reports in the literature. In most cases only one cyst is present, but epidermoid cysts can be multiple, bilateral or both. In this paper, we present the sonographic findings of a patient with two epidermoid cysts in the left hemiscrotum.

Case report

A 35-year-old male was referred for sonographic evaluation for left testicular swelling. The patient did not report any history of trauma. Laboratory tests for alpha fetoprotein and beta human chorionic gonadotrophin (HCG) were negative. Sonography was performed with a Voluson 730 scanner with a 5 MHz linear array transducer (GE Medical systems, Milwaukee, WI). Sonographic examination showed a well-circumscribed, rounded 1.5 cm extratesticular mass in the left hemiscrotum. The mass had a characteristic whorled appearance with a central focus of calcification, giving a bullseye or target appearance (Figure 1). On colour Doppler imaging, the mass was avascular (Figure 2). Another small (0.8 cm) mass with a similar radiological appearance was noted just adjacent to the above described primary mass (Figure 3). Both testes were seen separately and were normal (Figure 4). Based on the imaging findings, a suggested diagnosis of multiple epidermoid cysts was given. The patient was operated on and the diagnosis of epidermoid cyst was confirmed by pathology.

Discussion

Epidermoid cyst is a benign, generally well-circumscribed tumour of germ cell origin, representing approximately 1% of all testicular tumours. These tumours can occur at any age, but they are most common during the second to fourth decades [1, 2]. Epidermoid cysts can be multiple, bilateral or both [3]. Usually the patient presents with a painless testicular nodule and one-third of tumours are discovered on physical examination. Pathologically, the tumour is composed of fibrous tissue with an inner lining of squamous epithelium. The cyst is filled with flaky, cheesy-white keratin.

On sonography, four patterns have been identified: Type I consists of a whorled or onion-ring appearance; Type II is a hyperechoic mass with posterior acoustic shadowing; Type III is a hypoechoic mass with a well-defined rim; and Type IV is a heterogenous lesion with poorly defined margins and a few foci of calcification. Internal colour Doppler signals have never been reported. Sonographic patterns I–III are highly suggestive of the diagnosis of epidermoid cyst. Sonographic pattern IV is non-specific and does not rule out malignancy. Differential diagnosis has to take into account teratomas and other malignant tumours, which may present with similar findings. Careful analysis of the margins of the mass is particularly helpful in differential diagnosis because irregularity may indicate malignancy. Epidermoids are cysts but in most cases have no sound through transmission on sonographic examination because of the high acoustic impedance of their internal contents. Epidermoid cysts have a benign course with no metastasis or local recurrence ever reported [4–6].

The advent of high-resolution sonography has enabled the recognition of characteristic findings for this lesion. In particular, the combination of the onion-ring appearance and the avascularity of the lesion on Doppler sonographic evaluation in a patient with negative results of tumour marker studies suggest the diagnosis and may

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Figure 1. Greyscale image of the left hemiscrotum shows a well-circumscribed mass with a whorled appearance and a central focus of calcification giving a bullseye or target appearance.

Figure 2. Colour Doppler image shows that the mass is avascular.

allow for testis-sparing surgery. Type I intratesticular lesions, especially if there are no other concerning factors, may be treated conservatively with watchful waiting as this can preserve testicular tissue.

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Figure 3. Greyscale image shows another smaller mass with similar radiological appearance.

Figure 4. Greyscale sonographic image showing the lesion separate from both the testes.

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