

CASE OF THE MONTH

Microcystic lesion of the testis

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A 56-year-old man with no previous infectious or traumatic history to the testes complained of a palpable left scrotal mass of 1 month duration. Physical examination demonstrated an unretractable hard nodule at the left epididymal head. Laboratory test results including alpha-feto-protein and beta-HCG were normal.

Testicular ultrasound performed using a 7–10 MHz linear array transducer (GE LOGIQ 500; Milwaukee, WI) demonstrated a normal right testis with a 1 cm cyst found at the level of the right epididymal head. The ultrasound features of the left testis and epididymis are shown in Figure 1. No obvious vascular flows were detected when colour Doppler ultrasound was applied to this abnormality.

What is the diagnosis? What actions should be taken clinically? Is surgery necessary for this patient?

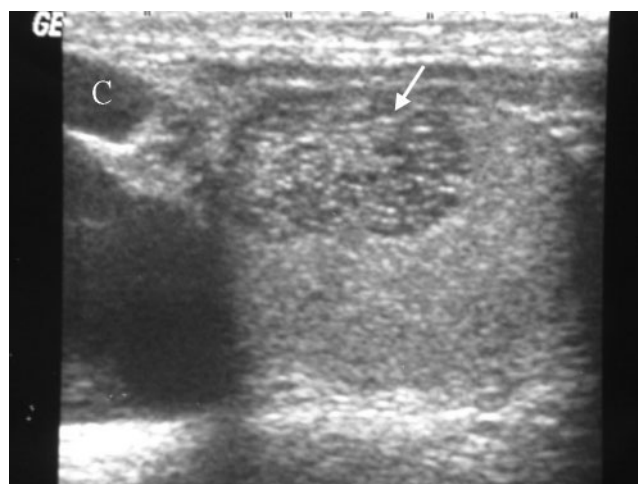


Figure 1. Longitudinal ultrasound showed a 21.4 mm × 9.8 mm nodule with multiple microcystic appearance (arrow) in the region of the mediastinal testis. A 4 cm cyst (C) was seen at left epididymal head.

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Diagnosis

Ultrasound demonstrated a 21.4 mm × 9.8 mm nodule with multiple microcystic structure in the left testis (Figure 1). The association of an epididymal cyst suggested that this microcystic lesion was tubular ectasia rather than a primary testicular tumour. Tubular ectasia of the testis is a rare benign disease that is often associated with some degree of obstruction at the level of the epididymus. Although tubular ectasia may have typical ultrasound appearances, this condition may at times be difficult to differentiate from a testicular tumour. As the majority of intratesticular tumours should be considered malignant until proved otherwise, recognition of this non-neoplastic entity is important for avoiding unnecessary surgery.

Discussion

The normal testis consists of several hundred lobules, with each lobule containing several seminiferous tubules. The seminiferous tubules of each lobule merge to form the straight tubes, which in turn converge to form the rete testis. The rete testis tubules, which lie within the mediastinum testis, are an anastomosing network of irregular channels with a broad lumen which then empties into the efferent ductules to give rise to the head of the epididymis. Obstruction in the epididymis or efferent ductules may lead to cystic dilatation of the efferent ductules, which usually presents as an epididymal cyst on ultrasound [1]. However, in the more proximal portion this could lead to the formation of an intratesticular cyst or dilatation of the tubules [2–4], as demonstrated in the present case.

It has been suggested that possible factors contributing to the development of tubular ectasia include epididymitis, testicular biopsy and vasectomy [5, 6]. In the present case, no such history was obtained. However, as this entity is usually found incidentally in middle-aged or elderly men [5], we thought that this could be attributable to the ageing process.

The differential diagnosis of a multicystic lesion in testis should include a cystic tumour, especially a cystic teratoma. A cystic teratoma is usually a palpable lesion containing both solid and cystic components; and the cysts are normally larger than that of tubular ectasia, which appear microcystic. Furthermore, the location of tubular ectasia in the mediastinum testis is also helpful in making the differential diagnosis.

However, before making the diagnosis of tubular ectasia, ultrasound should be performed carefully to exclude the presence of an adjacent solid mass.

Tumour infiltration has been reported to cause dilatation of the rete testis due to occlusion of the ductal system [4].

Another disease entity that should be considered in the differential diagnosis is cystic dysplasia of the testis. This is an extremely rare congenital malformation occurring in children and infants, unlike tubular ectasia which occurs in the older age group [5].

In the present case, the patient was apprehensive of the possibility of a testicular carcinoma and insisted on the removal of the lesion. Hence an orchidectomy was performed.

At surgery, an epididymal cyst was found as demonstrated on ultrasound. Histology of the excised testis demonstrated ectasia of the seminiferous tubules as the cause for the appearances seen at ultrasound.

The MRI features of tubular ectasia have been described as hypointense relative to the testis on T_1 and proton density-weighted images and, unlike tumours, tubular ectasia is not visible on T_2 weighted images [7]. Hence MRI should be considered as a further imaging technique in equivocal cases to avoid unnecessary surgery.

In conclusion, tubular ectasia is an often incidentally discovered condition found in middle-aged and elderly men. Clinically this lesion is usually asymptomatic. The ultrasound appearance of a microcystic or multiple tubular-like lesion located at the mediastinal testis and associated with an epididymal cyst in a middle-aged or elderly patient should alert the sonographer to the possibility of tubular ectasia.

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