Radiological appearance of primary carcinoid tumor of the testis

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ABSTRACT
Primary carcinoid tumor of the testis is extremely rare, only three cases have been reported previously, describing the preoperative ultrasonographic features of this testicular tumor. We describe sonographic features of such a case consistent with previous reports. This is the first case in Saudi literature.

Keywords: Testis, carcinoid tumor, primary carcinoid, ultrasound (US).

Carcinoid tumors are uncommon and the majority of them occur in gastrointestinal (GI) tract. When they occur outside the GI tract, they are usually metastatic. A total of 43 cases of pure primary testicular carcinoid tumor have been reported. Radiological features of this rare testicular tumor are not specific. Preoperative sonographic findings have been described previously in three cases only. Our case is probably the 4th report of its kind and the first in Saudi literature.

Case Report. A 26 year old man was referred to our hospital with a diagnosis of Leydig cell tumor of the left testis. The patient had been diagnosed at an outside hospital on the FNA of a suspicious lesion in the left testis. The patient had a complaint of painless swelling of the left testis of 3 months’ duration which on examination was found to be moderately enlarged in size and hard in consistency without any evidence of tenderness. Ultrasound examination had revealed the presence of a 5 x 4.5 x 3.7 cm well-defined relatively hypoechoic mass with areas of calcification and cystic component within the mass of the left testis (Fig. 1). The right testis was normal, computerised tomography (CT) scan of abdomen and pelvis which was carried out in the referring clinic, did not show any evidence of metastatic lesion. Clinically, there were no signs of abdominal metastasis and no gynaecomastia. A left radical orchidectomy was carried out through a groin incision. Tumor markers requested pre-operatively (beta human chorionic gonadotrophin, alpha fetoprotein, dehydroepiandrosterone, androsteindione) were reported as normal. Histopathology of the testis was reported as carcinoid tumor of testis and margins were free of tumor. There was no history of symptoms of carcinoid syndrome. We performed quantitative estimation of 5 hydroxyindole acetic acid (5HIAA), gastrointestinal contrast study, chest x-ray and CT of abdomen. These studies were all normal thus there was no evidence of other primary or metastatic carcinoid tumor. Incidentally, the scrotum was also included in the CT of abdomen and pelvis, which again demonstrated the presence of calcified and cystic components within the left testicular mass, shown by ultrasound.

Discussion. Seventy five to eighty per cent of all primary carcinoid tumors are gastrointestinal with most being appendiceal, ileal and rectal. Gonadal carcinoids are rare but may develop in the ovary and in the testis. Primary carcinoid tumor of the testis is very rare representing 0.23% of all testicular neoplasms. Forty three cases of pure primary carcinoid of the testis have been reported. The age of the patients ranged from 10-83 years. The tumor usually presented as a painless enlargement of the testis. The left testis was more frequently affected than the right one, while in one case the tumor was bilateral. Some had a history of cryptorchidism. Our case also presented with a left sided tumor which was misdiagnosed as being a Leydig cell tumor. On the basis of the referring diagnosis, we tested him for markers of Leydig cell tumor which were all within normal range. Gynecomastia which is a feature in some Leydig cell tumor cases was not present.

Testicular carcinoids are divided into three categories, primary in the testis, primary arising in a testicular teratoma and metastatic. No other tumor was found in our patient despite extensive work-up including 24 hours urinary 5HIAA estimation, chest x-ray, GI contrast study and CT scan of abdomen, thus indicating it to be a primary carcinoid tumor of the testis. Scrotal ultrasound using high frequency transducer (scan head frequency 7.5-10.MHz) is a sensitive method of establishing the site and...
morbidity of space occupying lesions. Testicular microlithiasis is an uncommon entity which has been described as a sonographic feature in benign conditions such as tuberculosis epididymoorchitis and following trauma. Also in a variety of testicular neoplastic conditions, intratesticular calcifications have been reported.

The nature of these microlithiasis has been described to be calcifications within the seminiferous tubules from the rapid turnover of neoplastic cells. Kinger et al reported testicular microlithiasis in 79% of testicular tumor specimens compared to only 15% of benign testicular specimens on an anatomic pathological study. In cases of carcinoma of the testis, intratesticular calcification has been described on histopathological examination. CT finding of calcification in a carcinoma tumor of the testis has not been described previously but in the presence of ultrasound examination of the testis, CT should not be a part of preoperative work up for a testicular mass.

Preoperative sonographic features of this tumor have been described in three cases only and in all three cases, intratesticular calcification had been noticed in additional to the usual finding of solid hypoechoic testicular mass. These features are not specific for carcinoma tumor but the sonographic finding of intratesticular calcification in association with testicular mass should raise the possibility of carcinoma tumor in the appropriate clinical setting.

References