Ovarian-type epithelial tumor of the testis – case report and literature review

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KEY WORDS

testis ◗ cystadenocarcinoma ◗ ovarian-type tumors

ABSTRACT

The occurrence of mucinous cystadenocarcinoma of the testis, which histologically resembles an epithelial tumor of the ovary, is extremely rare. We report a case of a 54-year-old man with mucinous cystadenocarcinoma of the testis who underwent orchidectomy. A review of the literature focuses on histogenesis, differential diagnosis, and the role of adjuvant therapy.

INTRODUCTION

Mucinous cystadenocarcinoma of the testis, which histologically resembles surface epithelial tumors of the ovary, is extremely rare [1-6]. Criteria necessary to establish the diagnosis are the absence of histologically similar tumors at other sites, tumor located in the testis, morphology inconsistent with any other type of testicular or paratesticular tumor, a predominantly solid appearance with mucin, and the histologic resemblance to its ovarian counterpart. Immunostaining for carcinoembryonic antigen (CEA) and cancer antigen 125 (CA 125) is usually positive in tumor cells of ovarian-type tumors, whereas cytokeratin 5/6 (CK 5/6) and calretinin are usually negative [1, 2].

CASE REPORT

A 54-year-old man presented to an outlying hospital in April 2008 with a right scrotal swelling. Ultrasonography was consistent with a testicular tumor (Fig. 1) and did not reveal enlarged retroperitoneal lymph nodes. A chest X-ray showed no evidence of pulmonary metastases. Tumor markers (CA-125, alpha-fetoprotein [AFP], human chorionic gonadotropin [β-HCG], CEA, prostate-specific antigen [PSA], and lactate dehydrogenase [LDH]) were normal. A right inguinal orchidectomy was performed. Histopathological findings, confirmed in our department of cancer pathology, were as follows: a G1, pT1 well differentiated mucinous cystadenocarcinoma of the testis. Morphologically it resembled an adenocarcinoma of the epididymis, but there was no infiltration of the epididymis seen and its location within the right testis indicated it to be the rare male counterpart of a mucinous cystadenocarcinoma of the ovary (Fig. 2, 3, 4). Immunostaining for CK 5/6, CK 7, and calretinin were negative, while positive for CK 20 and weakly positive for CEA. The patient was then referred to our cancer center. Staging computed tomography (CT) revealed an 18mm para-aortic lymph node located 5.5cm below the left renal vein (Fig. 5). Ultrasound-guided fine needle aspiration was not technically feasible and the patient refused to submit to videoscopic sampling of the node. Repeat CT scans, 5 and 12 months later, showed a slight decrease in the lymph node diameter (17 mm) and no other retroperitoneal lymph nodes were seen (Fig. 6). Tumor markers (CA-125, AFP, β-HCG, CEA, PSA, LDH) remained normal. Adjuvant therapy was not offered on the basis that cystadenocarcinoma of the testis is highly resistant to any form of radio- or chemotherapy in contrast to its ovarian counterpart [7].

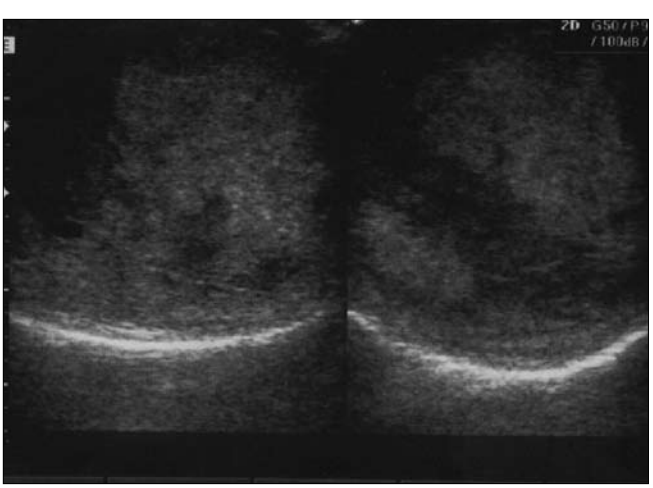

Fig. 1. Tumor of the testis (mucinous cystadenocarcinoma) – ultrasound scan.

DISCUSSION

Published reports of mucinous cystadenocarcinoma of the testes are rare [3-5]. In the differential diagnosis, metastatic carcinoma and malignant mesothelioma should be considered [1, 2, 6]. In most cases, differentiation from metastatic carcinoma cannot be made solely on the grounds of histopathology [6]. Clinical data and the absence of a primary tumor elsewhere are crucial to exclude this diagnosis. In our patient, there was no evidence of a remote primary tumor elsewhere on an abdominal CT or chest X-ray.

Mesothelioma of the tunica vaginalis occurs after occupational exposure to asbestos and is sometimes associated with a chronic hydrocele. Psammoma bodies are seen in pure papillary mesothelioma [1]. In our case no expression of CK 5/6 or calretinin has been found, which should exclude mesothelioma.

Prognosis in ovarian-type epithelial tumors of the testes is not well defined because of their rarity. Some authors suggest that they have good prognosis due to their low malignant potential or borderline type [3, 4, 5]. On the other hand, more aggressive forms of mucinous cystadenocarcinoma have been described with peritoneal spread shortly after initial presentation [5]. At the other extreme, mucinous intraepithelial carcinoma of the testis was reported in a 66-year-old man who remained disease-free 10 years after orchidectomy [5]. Our patient had no evidence of metastatic spread a year and a half after surgery other than the enlarged para-aortic lymph node which showed no sign of progression on abdominal CT. Without histological confirmation of malignancy, it is difficult to be sure whether or not it is metastatic. In this patient, we suggest that serial CT scans will provide information on rate of progression and prognosis.

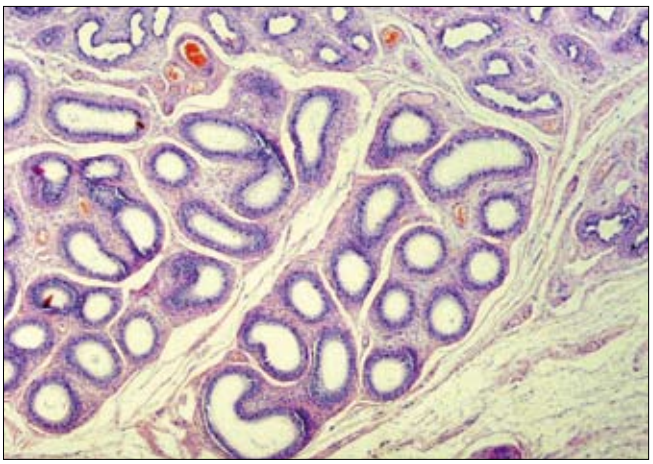

Fig. 2. Epididymis with no evidence of cancerous infiltration, H&E, x20.

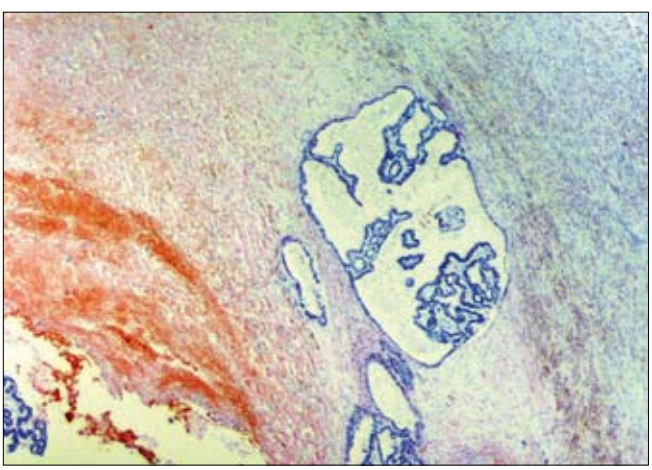

Fig. 3. Mucinous cystadenocarcinoma of the testis, H&E, x20.

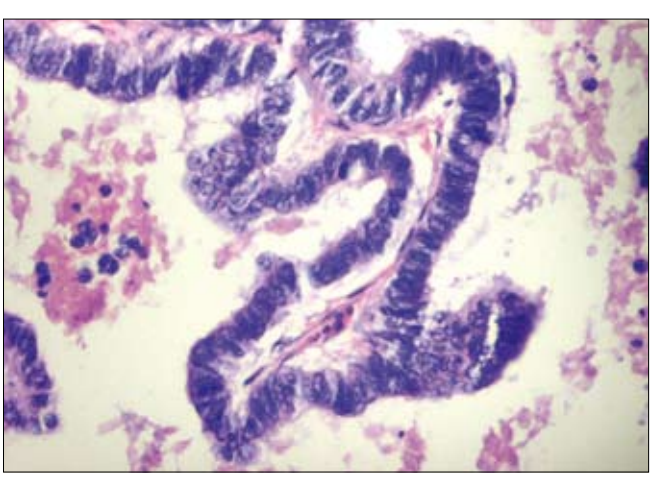

Fig. 4. Mucinous cystadenocarcinoma of the testis, H&E, x200.

In conclusion, there are no standardized recommendations for treatment and follow-up of ovarian-type epithelial tumors arising in the testes due to their rarity. Therefore, an individual approach to each patient is advised.

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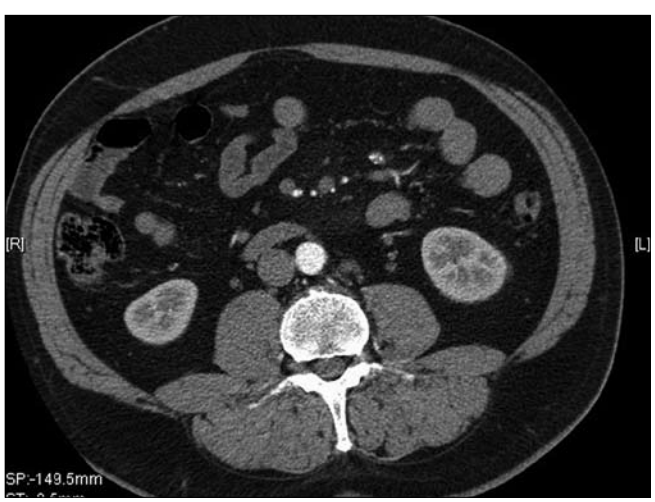

Fig. 5. Enlarged retroperitoneal lymph node – CT scan, October 2008.

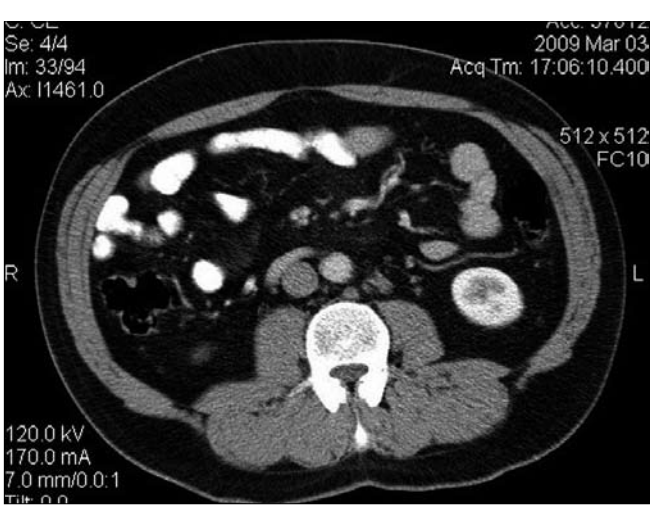

Fig. 6. Enlarged retroperitoneal lymph node – CT scan, March 2009.