## CASE REPORT

# Adenocarcinoma of rete testis with widespread liver metastasis

Zhenyu Yang, MD;\* Chang Sheng, MD;\* Lei Cao, MD<sup>+</sup> Dengshan Wang, MD<sup>+</sup>

Department of Urology, People's Hospital of Pudong New Area, Shanghai, China; Department of Pathology, People's Hospital of Pudong New Area, Shanghai, China

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### Abstract

The rete testis consists of a series of interconnected wide channels lined with a simple cuboidal to columnar epithelium. We report such a rare tumour in a 57-year-old male with widespread metastasis.

### Introduction

Adenocarcinoma of the rete testis is quite rare, but extremely malignant. It was first reported by Feek and Hunter in 1945.<sup>1</sup>

### **Case report**

A 57-year-old man was admitted to hospital with symptoms of a small right hydrocele for 2 months. The patient denied any voiding symptoms and history of infection, or trauma to his testis. Physical examination showed a hydrocele right testicle with a  $2 \times 3 \times 1.5$ -cm smooth, hard, and minimally tender mass at the hilum.

Ultrasound of the testis revealed moderate right hydrocele and irregular thickening of paratesticular tissues. Contrastenhanced computed tomography (CT) scanning demonstrated right testicular malignant tumour with hydrocele. Multiple liver metastases and massive ascites were also revealed on abdominal CT (Fig. 1).

Laboratory work-up indicated normal serum beta-human chorionic gonadotropin, alpha-fetoprotein and complete blood count.

The patient underwent left inguinal orchietomy. Pathological examination demonstrated a hard and irregular, grey yellow  $2.8 \times 1.7 \times 1.5$ -cm mass involving the parenchyma of the testis and epididymis (Fig. 1).

Microscopic examination revealed a neoplastic proliferation which had extensively infiltrated the rete testis, but was still recognizable only in small areas. Cubodial and low columnar neoplastic cells formed tubulo-grandular structures. Tumour cells showed moderate plemorphism, with enlarged nuclei and evident nucleoli (Fig. 2).

Immunohistochemical findings are summarized in Table 1. These clinical and histopathological findings favoured the diagnosis of primary adenocarcinoma of rete testis. Histological slides and immunohistochemical stains of the tumour were reviewed at the 18<sup>th</sup> Shanghai-Osaka-Melbourne Histopathology Diagnosis Conference and the diagnosis was confirmed. The patient refused further treatment and died 2 months later.

#### Discussion

Primary adenocarcinoma of the rete testis is a rare malignancy of no known definite predisposing factors that arises in the mediastinum of testis and may grow slowly for months before clinical detection.<sup>2-4</sup>

Patients with adenocarcinoma of the rete testis most commonly present with painless scrotal enlargement. Adenocarcinoma of the rete testis is most commonly associated with hydrocle. Almost all patients developed tumours in a previously normal testis; a few documented cases were associated with cryptorchidism, previous orchidopexy, previous hydrocelectomy and otherwise.<sup>2</sup>

The diagnosis of adenocarcinoma of the rete testis is made only pathologically. The criteria were firstly reported by Feek and have been revised by Nochomovitz. The generally accepted criteria includes: (1) the tumour is situated in mainly in the testicular mediastinum; (2) exclusion of any germcell, non-germ cell, or other neoplasm either locally or at a distant site; (3) a histological pattern compatible with that of malignant tumour of rete origin; and (4) a transition from normal rete tesits to atypical and neoplastic rete epithelium.<sup>2,3</sup>



*Fig. 1.* Computed tomography findings and pathological examination demonstrated a hard and irregular, grey yellow 2.8 × 1.7 × 1.5-cm mass involving the arenchyma of the testis and epididymis.

Table 1.	
Antibody	Results
AE1/AE3	+
CAM5.2	+
CD56	+
NSE	+
CHG	-
Syn	-
ER	-
PR	-
Ca125	-
D2-40	-
Melan-A	-
Calretin	-
Inhibin	-
CDX-2	-
WT-1	-

There are no known laboratory markers for adenocarcinoma of the rete testis, with serum alpha-fetoprotein and beta-human chorionic gonadotropin always within normal levels.<sup>2</sup>

Adenocarcinoma of the rete testis is an aggressive neoplasm with a reported 5-year survival of 13%. Radical orchiectomy is assumed to be the primary treatment. With regard to adjuvant therapies, neither chemotherapy nor radiotherapy has shown any significant response in either localized or metastasis disease.<sup>4</sup> Multimodal treatment included adjuvant radiotherapy may be effective in lymphogenous metastasis.<sup>5</sup>

Competing interests: None declared.

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Fig. 2. Tumour cells showed moderate plemorphism, with enlarged nuclei and evident nucleoli.

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**Correspondence:** Dr. Zhenyu Yang, Department of Urology, People's Hospital of Pudong New Area, Shanghai, China; zhenyuyang@live.cn; and Dr. Chang Sheng Department of Urology, People's Hospital of Pudong New Area, Shanghai, China; 620120@163.com