

# Primary squamous cell carcinoma of the seminal vesicle: A case report

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**Abstract.** Primary squamous cell carcinoma (SCC) is extremely rare in the seminal vesicle. A 26-year-old male patient presented with complaints of difficulty in urination for 10 years and gross hematuria for 7 months. Ultrasonography and computed tomography imaging demonstrated a large mixed solid/cystic mass lesions in the rectovesical pouch. The mass was completely resected with the open approach and was verified as a primary SCC of the seminal vesicle by post-surgical histopathological examination. Pelvic metastases were detected 28 months after the surgery. This is the third reported case of primary SCC of the seminal vesicle, and the first one in a young patient. Early diagnosis and treatment are crucial for primary SCC of the seminal vesicle.

## Introduction

Primary neoplasms of the seminal vesicle are rare, and the prognosis of the disease is usually poor, as the majority of the cases are often advanced when diagnosed (1). Primary squamous cell carcinoma (SCC) of the seminal vesicle is rare, with only two cases reported in the English literature, in a 69- and a 54-year-old man (1,2). We herein report a case of primary SCC of the seminal vesicle in a 26-year-old patient.

## Case report

A 26-year-old man was admitted to the Department of Urology of the Affiliated Hospital of Guizhou Medical University (Guangzhou, China) in June, 2011 with complaints of difficulty in urination for 10 years and gross hematuria for 7 months. The patient had a history of orchidopexy and urethroplasty due to right cryptorchidism and hypospadias at 3 and 9 years of age, respectively. The physical examination revealed no significant findings. The urinalysis revealed hematuria and a large number of white blood cells in the urine culture. The serum tumor markers  $\alpha$ -fetoprotein (AFP),  $\beta$ -human chorionic gonadotropin ( $\beta$ -hCG), prostate-specific antigen (PSA), carcinoembryonic antigen (CEA) and cancer antigen 125 (CA125) were within the normal range. Ultrasonography and computerized tomography (CT) indicated a mixed solid/cystic mass in the rectovesical pouch without lymphadenopathy was shown (Fig. 1A). On retrograde cystourethrography, the bladder was shifted ventrally and its neck was compressed by the mixed solid/cystic mass; there was also a stricture in the urethra.

Following a consultation with the patient and his family members, they refused magnetic resonance imaging (MRI) and percutaneous puncture, and requested a traditional open surgical treatment. After an extensive discussion with the urologists of the Affiliated Hospital of Guangzhou Medical College, the mass was resected via the open approach. During the operation, we identified a mixed solid/cystic mass in the right seminal vesicle, with adhesions to the surrounding tissues, but without invasion of the prostate, ureters, rectum, or lymphadenopathy (Fig. 1B). The mass was separated without difficulty from the surrounding structures. The mixed solid/cystic mass was verified to be the enlarged right seminal vesicle, which was excised, together with the proximal vas deferens, leaving the ejaculatory duct unresected. Macroscopically, wide-base papillary tumors (6.0x4.0x3.0 cm) were identified on the cyst wall (Fig. 1C). The histopathological examination revealed a moderately differentiated SCC (Fig. 1D and E). Despite our recommendations, the patient and his family members refused radiotherapy and chemotherapy. Pelvic metastases were detected at 28 months after surgery (Fig. 1F), but the patient still refused further treatment and succumbed to the disease ~6 months later.

The patient provided consent for the publication of this case report and accompanying images.

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**Abbreviations:** CT, computed tomography; MRI, magnetic resonance imaging; SCC, squamous cell carcinoma; AFP,  $\alpha$ -fetoprotein;  $\beta$ -hCG,  $\beta$ -human chorionic gonadotropin; PSA, prostate-specific antigen; CEA, carcinoembryonic antigen; CA125, cancer antigen 125

**Key words:** hematuria, seminal vesicle carcinoma, squamous cell carcinoma

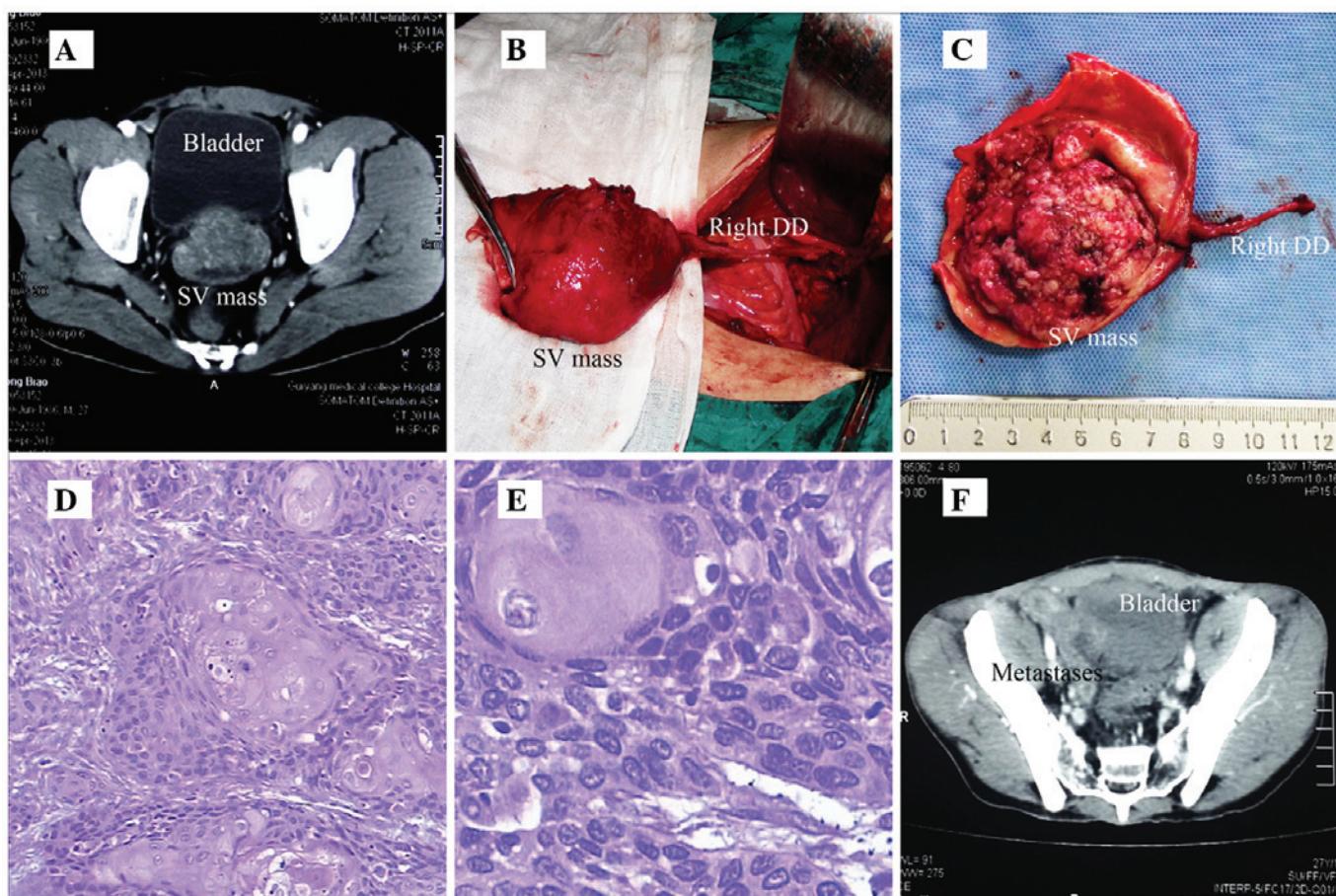


Figure 1. (A) Computed tomography scan of the pelvis at initial presentation of a 28-year-old patient with a squamous cell carcinoma of the right seminal vesicle. (B) Macroscopically enlarged right seminal vesicle. (C) Resected surgical specimen. (D and E) Histopathology of the resected specimen; magnification, x100 and x400, respectively. (F) Computed tomography scan of the pelvis at 28 months after surgery. SV, seminal vesicle; DD, ductus deferens.

## Discussion

The tumors of the seminal vesicles may be primary or secondary tumor spread from adjacent organs, such as the prostate, bladder, rectum, or lymphoma (3). Primary carcinoma of the seminal vesicle is a rare and poorly understood entity. The criteria for the diagnosis of primary seminal vesicle tumors are as follows: No other demonstrable tumor present in the body; the tumor should be verified to be localized in the seminal vesicle; and tumors invading from surrounding organs should be excluded (4,5). In the present case, it was anatomically and histopathologically obvious that the tumor had arisen from the seminal vesicle. In addition, tumor markers, including AFP,  $\beta$ -hCG, PSA, CEA and CA125 were negative, and no other cancer was detected in the body.

Histologically, the seminal vesicles are composed of an external fibrous connective tissue layer, a middle smooth muscle layer and an inner mucosal layer (6). The squamous cell tumor in the seminal vesicle may be due to chronic inflammatory stimulation-induced squamous metaplasia and subsequent malignant transformation (7). Primary SCC of the seminal vesicle is extremely rare, with only two cases reported in the English literature to date (1,2). To the best of our knowledge, our case is only the third reported, and the first one in a young patient.

The diagnosis and staging of seminal vesicle tumors requires radiological imaging; however, the tumors tend to invade neighbouring structures in the retrovesical space, causing difficulties in determining the organ of origin (8). Pelvic CT and MRI enable localisation of the tumor in the seminal vesicle, and a better appreciation of the locoregional extension prior to surgery (9). In our case, the CT revealed a mixed solid/cystic mass in the rectovesical pouch.

The prognosis of primary seminal vesicle carcinoma is generally poor, and no standard or optimal treatment for seminal vesicle carcinoma has been established. The optimal treatments are considered to be surgery, radiotherapy and chemotherapy. However, for primary SCC of the seminal vesicle, the treatment experience is very limited. It was previously reported that a patient who received radiotherapy after surgery remained tumor-free for 2.5 years (1). The other patient, who received chemotherapy after surgery, was diagnosed with metastasis to the rectum 7 months after surgery (2). In the present case, our patient only received complete resection of the tumor and pelvic metastases were detected at 28 months after surgery.

The prognosis of seminal vesicle tumors is generally poor. Early diagnosis and treatment are crucial for a positive outcome, which requires further investigation of this rare entity by additional studies, with the aim to determine the optimal treatment.

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