Case Report

# Seminal vesicle schwannoma presenting with left hydroureteronephrosis

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**Abstract** We report a very rare case of seminal vesicle schwannoma in a 50-year-old male, with left hydroureteronephrosis. Only five cases of seminal vesicle schwannomas have been reported in medical literature until date.

**Key Words:** Hydroureteronephrosis, schwannoma, seminal vesicle

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## INTRODUCTION

Schwannoma is a common benign peripheral nerve sheath tumor arising from Schwann cells. No site is bereft from the occurrence of this tumor. It is rarely seen in the genitourinary organs, especially the seminal vesicle.

## CASE REPORT

A 50-year-old-male, presented with the complaints of left flank pain of 1 month duration. He denied having any constitutional symptoms, voiding difficulty, ejaculatory disturbances, hematuria or constipation.

Digital rectal examination revealed a mass in the region of left seminal vesicle separate from the prostate. The total leukocyte counts were within the normal limits, serum prostate specific antigen was 0.759 ng/ml and urine culture was sterile. Serum urea and creatinine values were 20 mg/dl (8-23 mg/dL) was 1 mg/dl (0.6-1.2 mg/dL), respectively. Repeat transabdominal and transrectal ultrasonography (TRUS) [Figure 1a] revealed a well-defined mass lesion, measuring 13.5 cm × 9.9 cm × 5.4 cm in size, posterior to the urinary bladder with homogeneous, hypoechoic echotexture in the region of left seminal vesicle. Prostate was normal in size and echotexture. There was moderate left hydroureteronephrosis with near normal renal parenchymal thickness and echotexture. The distal ureter was disappearing into the mass lesion. Computed tomography (CT) with contrast [Figure 1b and c] revealed a mass with mixed cystic and solid densities in the location of left seminal vesicle. The lesion showed good post-contrast enhancement and no evidence of calcification. The terminal part of the left ureter appeared embedded within the mass lesion. The lesion was seen separate from the prostate and the left seminal vesicle wasn't distinctly visible on the TRUS and the CT scans. Radiological opinion in view of the well-defined nature, solid-cystic, homogeneous and hypoechoic texture was that of a benign mass lesion. Since TRUS and CT gave adequate anatomical information of the lesion, magnetic resonance imaging (MRI) was not requested for, though that would have been the next logical step. Cystoscopy showed a trigonal bulge in the left side. Retrograde catheterization was not possible implying obstruction and or distortion of the juxtavesical ureter. Per-rectal fine needle aspiration of the mass yielded only blood and cytology of the same was inconclusive.

The lesion was explored through a lower midline incision on the abdomen. A huge mass lesion was encountered in the

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retrovesical location, obscuring the left seminal vesicle and involving the left ureter causing proximal dilatation. In the beginning ureter was liberated by meticulous dissection. This was followed by decompression of the tumor by scooping out of myxoid, jelly-like material after a capsulotomy. The capsule was carefully excised throughout taking care to preserve the neurovascular structure at the bladder neck. No separate seminal vesicle was made out at the culmination of tumor excision, suggesting that the former structure is the organ of origin. The right seminal vesicle was normal in appearance.

There were no post-operative complications and patient was discharged on 10th post-operative day. Histopathological examination revealed a benign schwannoma [Figure 2] with degenerative changes such as foamy macrophages [Figure 2c] and cholesterol clefts [Figure 2d] and characteristic Verocay bodies [Figure 2b]. Multiple sections did not reveal any seminal vesicle tissue within the tumor, suggesting that the tumor had completely effaced the organ. Patient was voiding well without incontinence and his erectile and ejaculatory functions are preserved. There has been no recurrence of tumor until date, that is, 2 years and 10 months after surgery.

## DISCUSSION

A schwannoma or neurilemmoma is a benign, usually encapsulated neoplasm and along with neurofibroma, constitutes one of the two most common benign peripheral nerve sheath tumors. Schwann cells are the cell of origin of this tumor. It is most commonly found in young and middle aged adults and is typically found along peripheral nerves, in paravertebral locations and the flexor regions of the extremities (especially near the elbow, wrist and knee), mediastinum, head and neck region.

Schwannomas arising from the seminal vesicle are extremely rare. Only five cases have been reported in the literature.[1-5] In 2002, Iqbal *et al*. described the first case in a 79-years-old man with a history of nocturia.[1] Subsequently, Latchamsetty *et al*. reported a case in a 48-year-old man who presented with right lower quadrant abdominal pain,[2] Han *et al*. reported a case of a 31-year-old man, presenting with hemospermia,[3] and He *et al*. reported a cystic schwannoma in a 50-year-old male.[5] Unlike the present case, none of the cases described until now have engulfed the ureter, occluded it's lumen and presented with hydroureteronephrosis. Neurovascular bundle on the contralateral side was unaffected, which possibly explains the preservation of erectile and ejaculatory function in patient.

Schwannomas of the seminal vesicle are usually asymptomatic until they have been found incidentally or become large and compress the surrounding tissues. Transabdominal or TRUS is mostly the initial diagnostic tool. CT and *MRI* are useful in assessing the location, size and extent.[5] The differential diagnoses of benign seminal vesicular tumors are cystadenoma and low grade epithelial-stromal tumor.[6] The primary malignant tumors of the seminal vesicle, such as primary carcinoma, leiomyosarcoma, phyllodes tumor, choriocarcinoma, mullerian adenosarcoma, male adnexal tumor of probable wolffian origin, angiosarcoma[7] and extra-gastrointestinal stromal tumor.[8] Per-rectal or TRUS guided fine needle aspiration is useful for evaluating the nature and type of tumor. Malignant tumors would indicate a limited resection or debulking surgery followed by adjuvant therapy,

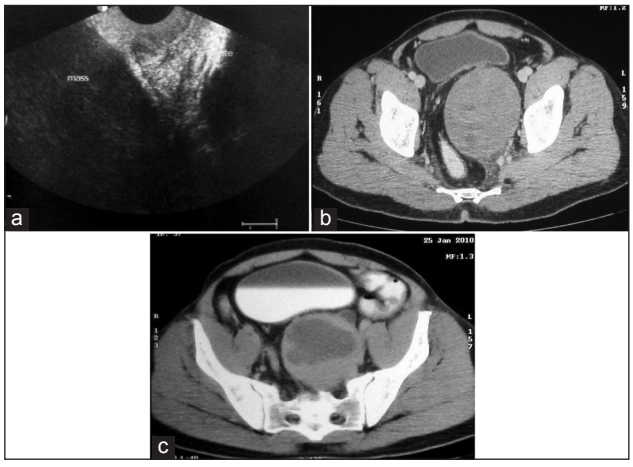


**Figure 1:** (a) Transrectal ultrasonography of pelvis showing the homogeneous well-defined hypocechoic mass at the base of the bladder separate from the prostate. Left seminal vesicle was not seen separately. (b and c) Contrast enhanced computed tomography scan depicts a large mass lesion with predominantly solid densities displacing the urinary bladder and prostate, with moderate enhancement

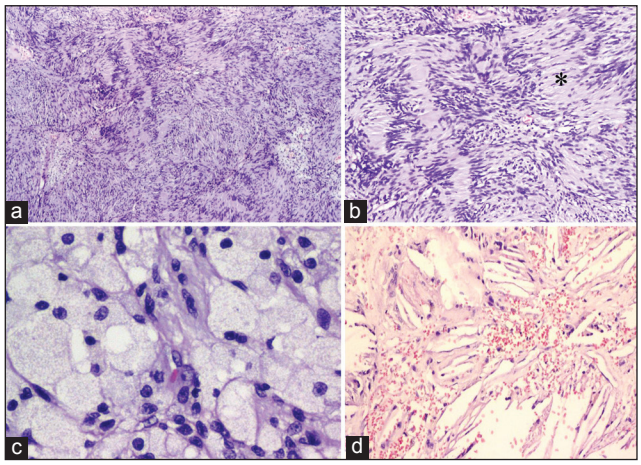


**Figure 2:** (a) Tumor is composed of spindle cells arranged in Antoni A and Antoni B pattern (H and E, ×40). (b) with Verocay bodies (*) (H and E, ×100). (c) sheets of foamy macrophages admixed with lymphocytes (H and E, ×400) and (d) cholesterol clefts (H and E, ×400)

to prevent urinary incontinence and erectile dysfunction. A histopathological diagnosis is imperative for confirmation of the diagnosis and deciding further treatment.

Surgical resection is the curative treatment for seminal vesicular schwannoma. An open surgical procedure is the treatment of choice. However seminal vesicles are difficult organs to access, because of the deep location of the seminal vesicles in the retrovesical space. Open seminal vesiculectomy may be associated with significant post-operative morbidity, such as ureteral injury, rectal and bladder wall injury, which mandates meticulous dissection. Robotic surgery utilizing the Da Vinci Surgical System, is beneficial in terms of shorter length of hospitalization and less blood loss, reduced morbidity, decreased positive surgical margins and preservation of erectile function.[8] Robotic-assisted laparoscopic vesiculectomy with the advantages of combined 3D vision and endo-wristed instrumentation over conventional laparoscopy reduces morbidity and blood loss, and convalescence is minimal. Meticulous athermal, traction-free dissection of the neurovascular bundles preserves potency.[9,10] Schwannoma, though benign may recur in cases of incomplete excision.

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