



Oncology

A giant retrovesical cystic mass: A rarest of rare with a management dilemma

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ABSTRACT

A 32-year-old man investigated for subfertility and bladder outlet obstruction. He had a palpable pelvic mass and computerized tomography (CT) pelvis demonstrated that a large cystic mass (15cm) arising from right side seminal vesicle, and another small cyst from left side seminal vesicle with unilateral hydronephrosis. Following a futile attempt of endoscopic drainage, mass was excised in toto via lower midline laparotomy. Pathological examination and immunocytochemistry confirmed the mass to be an extremely rare seminal vesicle Schwannoma. To our knowledge, there are few unilateral seminal vesicle schwannomas reported in literature published in English language up to date.

Introduction

Schwannoma is a slow-growing benign peripheral nerve sheath tumor arising from Schwann cells usually found in the head, neck, mediastinum, and retroperitoneum.¹ Schwannoma of seminal vesicles is a rare entity, and less than ten cases were reported in the literature. It usually appears from the third to sixth decade of life, most of which are silent and only become symptomatic when compressing adjacent structures.^{1,2} Herein, we present the first case of bilateral giant cystic seminal vesicle schwannoma.

Case presentation

An otherwise healthy 32-year-old male was investigated for subfertility, presented with features of obstructive lower urinary tract symptoms, a palpable lower abdominal mass, and right loin pain for three months. Clinical examination confirmed a firm bimanually palpable pelvic mass after catheter emptying of the bladder.

His semen analysis was normal, but the global renal functions were impaired (serum creatine -2.2mg/dl). Initial ultrasound of kidney ureter bladder (USS KUB) revealed a large pelvic cystic mass with compression to the bladder and upper tracts. He was hydrated well with adequate intravenous fluid and N-acetylcysteine by the nephrology team and arranged for contrast-enhanced computed tomogram (CT)

abdomen and pelvis which demonstrated the bilateral seminal vesicle cysts (right $15\text{ cm} \times 12\text{ cm}$ and left $-5\text{ cm} \times 4.5\text{ cm}$) with solid component and Large cyst compressing bladder and the right ureter (Fig. 1 a, b) with significant bladder outflow obstruction.

The initial attempt to decompress the cyst by endoscopic collicular incision was futile and prophylactic retrograde stenting also failed. After counseling for consequences such as infertility and sexual dysfunction and sperm banking, he underwent open surgical excision of bilateral cystic masses with dissection kept close to the cyst wall taking care not to injure the adjacent viscera or lateral neurovascular structure (Fig. 2 a, b,c). The external compression on bilateral ureters was released and stented. Following an uneventful recovery, he was reviewed with histology which was reported as a schwannoma of the bilateral seminal vesicles (Fig. 3 a, b). His erectile functions were intact without any other autonomic neural dysfunction and serum creatinine was returned to normal levels.

Discussion

Schwannoma is a benign peripheral nerve sheath tumor composed of well-differentiated Schwann cells.¹ This is commonly found along the peripheral nerves, in paravertebral locations, and the flexor regions of extremities, especially near the elbow, wrist, and knee, mediastinum, head, and neck region.²

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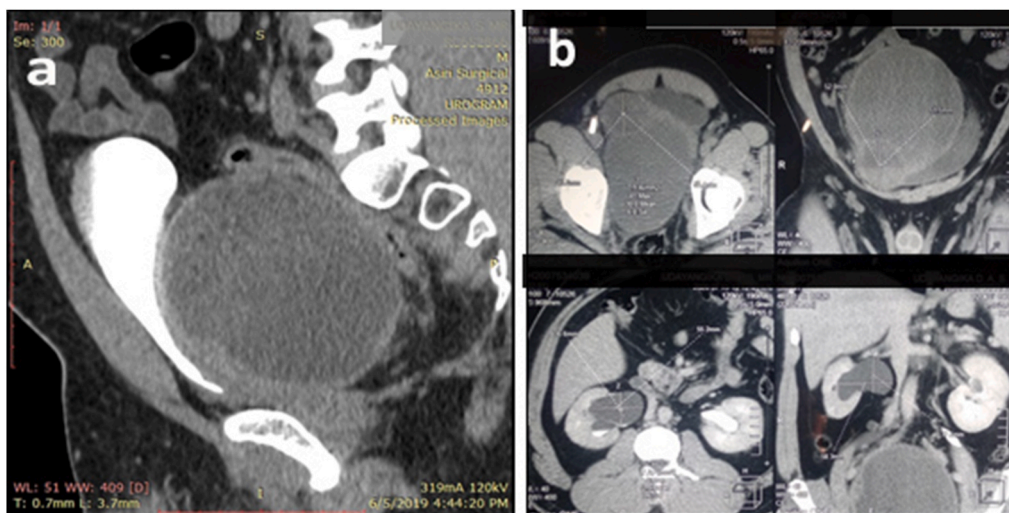


Fig. 1. (a) Parasagittal view of CT shows the cystic mass and compressed bladder. (b) axial and coronal views of CT show the large right side and small left side cysts and right side hydronephrosis.

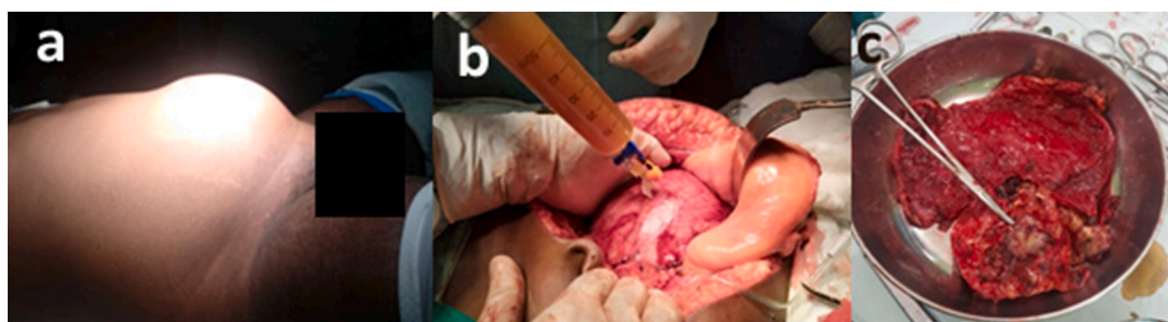


Fig. 2. (a) Visible lower abdominal mass during patient positioning. (b) Intraoperative view of the schwannoma and aspiration of the fluid. (c). Dissection of the cystic mass revealed a rough cystic wall.

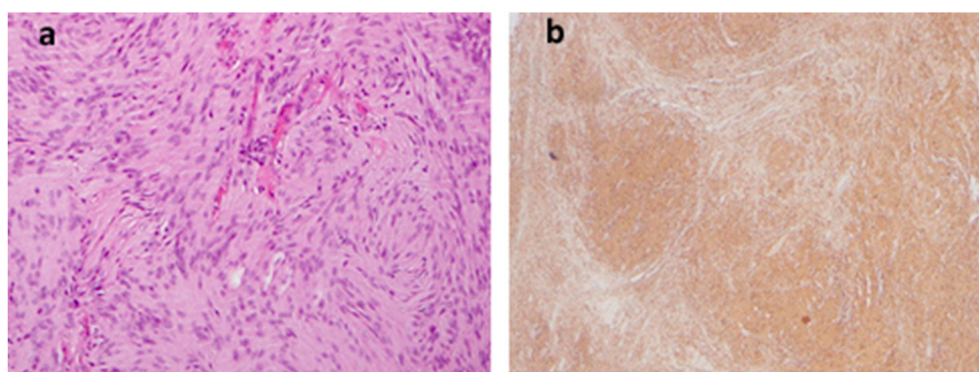


Fig. 3. (a) Spindle-shaped cells with bland nuclei and eosinophilic cytoplasm with the indistinct cell membrane, focal nuclear palisading is also present. (b) The neoplastic cells show Stephan’s strong diffuse S-100 positivity.

Tumors of the seminal vesicles are exceedingly rare only less than ten cases were reported in the English literature. The differential diagnosis of benign seminal vesicular tumors are cystadenomas and low-grade epithelial-stromal tumors. The primary malignant tumors of the seminal vesicles, such as primary adenocarcinoma, leiomyosarcoma, phylloides tumor, choriocarcinoma, Mullerian adenosarcoma, angiosarcoma, and extra gastrointestinal stromal tumor are also equally rare and need to be differentiated before adopting a watchful waiting policy.³

Schwannomas of the seminal vesicles are slow-growing and asymptomatic and generally to be found incidentally. Occasionally, they could

become large enough to impinge on the surrounding structures, and present with obstructive and storage urinary symptoms, hydronephrosis, constipation, hemospermia, and infertility.⁴

With the initial report by Iqbal et al., in 2002, there are only a handful of reports on the subject out of which the majority were incidentally found small masses (2–5 cm) during the investigation for hemospermia, unilateral hydronephrosis.¹ Due to the small size majority were amenable to laparoscopic excision.^{2,5} None of the cases described up to now have reached the externally visible giant proportions of the present case with associated obstructive uropathy.

An ultrasound scan, computed tomogram (CT), and magnetic resonance imaging (MRI) can detail the size, location, pressure effects to adjacent organs, nature of the tumor, and the extent. Transrectal ultrasound and biopsy can be performed in small solid lesions. However, it was not practical to obtain a conclusive sample in a large cystic mass as found in the present case.

Surgical resection is the current standard treatment option for suspected symptomatic schwannomas, which could be performed laparoscopically or open surgically depending on the size and extent of the tumor. The laparoscopy especially with robotic assistance provides excellent visualization of the retro vesicular space and seminal vesicles achieving minimal collateral damage. However, in the case of giant masses, open excision could achieve the same goals with minimal injury to adjacent structures and may be indicated for large schwannomas with compressive effects and distorted pelvic anatomy as found in the present case. Active surveillance may be the best option for asymptomatic small masses provided unequivocal biopsy proof is available. Schwannomas, though benign may recur in case of incomplete resection. Therefore, follow-up imaging at regular intervals is recommended.

Conclusion

Seminal vesicle schwannomas are extremely rare and imaging studies are needed to diagnose, characterize the solid and cystic nature, and their invasion pattern. Surgical resection and histological confirmation is the most common curative treatment option in symptomatic patients.

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