Case reports

IntroduCtIon

Tumors of the seminal vesicle are extremely rare and most of-
ten are incidentally found [1]. Schwannoma, also known as neurilemmoma, is a slow-growing,
benign tumor of the peripheral nerve sheath that is composed of
Schwann cells. It is usually found in the head, neck, mediastinum,
and retroperitoneum. Most of these tumors are silent and only
become symptomatic with compression of the nearby structures,
including nerves [2].

This tumor usually appears from the 3rd to 6th decade of life and
may require surgical removal. The recurrence rate for Schwannoma
is 30-40%, especially when they are in intracranial, spinal, or sacral
regions and surgical excision is incomplete; however, malignant
progression is rare [3].

Schwann cell tumor is caused either by mutation of the gene
NF2 or by deletion of 22q chromosome. Mostly cases of schwanno-
ma are sporadic, but 10% are associated with genetic diseases such
as type-2 neurofibromatosis and Schwannomatosis. These genetic
diseases have an incidence of 1 : 40,000 – 80,000 [3].

Case report

A 43-year-old man with a past history (from 1-year ago) of two
schwannomas excised from the muscles of the right leg and left
thigh and no familial history for this type of neoplasms, presented
with lower urinary tract symptoms. Digital rectal examination pre-
sented no abnormal findings. PSA was 0.85 ng/ml and uroflow-
metry: Qmax. 9.9 ml/s Volume: 200 cc., post-voiding volume not
measured.

Imaging studies were performed; initially transrectal ultra-
sonography (TRUS) followed by magnetic resonance imaging (MRI)
for better characterization of the lesion. Both studies showed a
solid mass, measuring 21 x 21 mm (TRUS) and 26 x 19 mm (MRI),
localized on the left seminal vesicle, well defined, with a heteroge-
neous center and a vascularization pattern evident by captation of
endovenous contrast – gadolinium (Figs. 1, 2, and 2a).

A transvesical approach with a transtrigonal midline incision
was performed under general anesthesia. The left seminal vesicle
was excised and digital anterior commissurotomy was done at
the same time. For safety, bilateral ureteral catheterization had been
performed. During the procedure the surgeon and his assistant
used a surgical lens with 2.9x magnification. Complete excision of
the left seminal vesicle with nerve sparing technique was the pri-
mary goal and was successfully accomplished.

Histological examination of the surgical specimen established
the diagnosis of schwannoma (Figs. 3a, 3b, 3c, 3d and 3e).

The patient is asymptomatic, in the 3rd month post-operatory,
presents a Qmax 28.6 ml/s and no complaints of sexual dysfunction.

DISCUSSIon

Tumors of the seminal vesicle are very rare. They include pri-
mary adenocarcinomas, metastatic, contiguous, and stromal cells
tumors [4]. Clinically, seminal vesicle tumors are presented by un-
specific symptoms such as: bladder, ejaculatory, or intestinal (rec-
tal) obstruction; dysuria, hematuria, or hematospermia; and/or
pelvic or perineal pain, which are consequent to organ or nerve
compression [5].

Schwannoma is a benign peripheral nerve sheath tumor com-
posed of cells described by Theodor Schwann. It is a benign neo-
plasm, usually encapsulated and composed by spindle cells without
significant atypia, arranged in fascicles. This well differentiated
neoplasm is found most commonly in young and middle aged
adults [3].

Schwannoma is extremely rare in the seminal vesicles and there
are only four cases described in literature previously [2, 4, 7, 8].

Differential diagnosis between tumors of the seminal vesicle is
ultimately made by histological analysis, either by pre-operative bi-
opsy or post-operative specimen study. Recommendations are un-
clear regarding a decision-modifying biopsy. All cases of schwanno-
ma of the seminal vesicle that have been reported underwent

KEY WORDS

schwannoma » seminal vesicle » transvesical
excision

ABSTRACT

We present a rare case of a schwannoma of the semi-
nal vesicle that occurred in a 43-year-old male with
symptoms of the lower urinary tract. Ultrasonography
and magnetic resonance imaging documented a solid
mass in the patient’s left seminal vesicle. A transvesical
approach with a transtrigonal midline incision was suc-
cessfully performed. The microscopic aspect was com-
patible with schwannoma.

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Fig. 1. Transrectal ultrasonography presenting a solid mass, measuring 21 x
21 mm on the left seminal vesicle.
transrectal ultrasound guided biopsy and surgical excision thereafter [2, 4, 7, 8]. Regardless, biopsies may be inconclusive and exploratory laparotomy/laparoscopy is usually needed [1]. In the present case, the small, solid non-invasive tumor documented in the TRUS and MRI, and the data available led us to refrain from performing a biopsy and to follow a conservative surgical approach. This decision allowed for the reduction of iatrogenic desmoplasia and, therefore, a successful nerve sparing procedure.

**Fig. 2.** Magnetic resonance imaging cross section with low to intermediate intensity on T1-weighted images, showing a mass measuring 26 x 29 mm on the left seminal vesicle.

**Fig. 2a.** Magnetic resonance imaging parasagittal section.

**Fig. 3a.** Macroscopic aspect of the surgical specimen.

**Fig. 3b.** Cross-section of the surgical specimen. The tumor is well-circumscribed, apparently capsulated, and yellow with irregular dark brown areas.

**Fig. 3c.** Microscopic aspect (H&E, 5x).

**Fig. 3d.** Spindle-shaped cells with poorly defined eosinophilic cytoplasm and without atypia and with vague nuclear palisading (H&E, 400x).
Although surgical resection is the curative treatment for symptomatic seminal vesicle tumors, namely the schwannoma, the topography and anatomic considerations of the seminal vesicles make them difficult to approach [5]. Different surgical approaches such as transperineal, transcoccygeal, para/retrovesical, transvesical, and laparoscopic are described and there’s no consensual first choice between them [5]. It is assumed that the seminal vesicle surgery is a unique challenge and that approach should be decided by the surgeon’s expertise. Complications are predicted in all techniques, but transvesical and laparoscopic approaches take advantage by minoring risk of impotence, blood loss, and rectal injury [5].

The transvesical technique with magnification lens performed in this case allowed the excision of the left seminal vesicle with intact tumor. It also allowed preservation of the neurovascular bundle and to access the bladder neck for nontraumatic digital anterior commissurotomy. With this attitude, the surgeon aimed for an oncologic cure and the resolution of LUTS, whether symptoms were the result of tumor nerve compression or bladder neck disease.

CONCLUSION

Seminal vesicle tumors are rare and their clinical diagnosis and surgical approach can be difficult [5, 6]. Imaging studies became crucial to diagnose, characterize solid or cystic tumors and understand their invasion patterns [5, 6]. Symptoms in the presence of a seminal mass are the cornerstone to surgery [6]. The surgical approach, since there are so few cases described, depends on the experience and expertise of the urologic surgeon [5].

REFERENCES

1. Gil AO, Yamakami LY, Genzini T: Cystadenoma of the seminal vesicle. Int Braz J Urol 2003; 29 (5): 434-436.
2. Latchamsetty KC, Etterman L, Coogan CL: Schwannoma of the seminal vesicle. Urology 2002; 60 (3): 515xvi-515viii.
3. Kleihues P, Cavenee W: Tumours of the Nervous System: Pathology and Genetics. WHO, 2007.
4. Han F, Wei Q, Yang YR: Neurilemmoma of a seminal vesicle. Chin Med J [Engl] 2007; 120 (15): 1383-1384.
5. Jr. Graham Sam, Glenn’s Urologic Surgery, 7th ed., LWW, Ch. 54, pp, 361-363.
6. Wein, Kavoussi, Campbell-Walsh Urology, 9th ed., Saunders, Vol. I, pp. 1115-1119.
7. Fievet L, Boissier R, Villeret J et al: Pelvic kystic schwannoma evoking a tumor of the right seminal. Prog Urol 2010, 20 (9): 660-664.
8. Iqbal N, Zins J, Klienman GW: Schwannoma of the seminal vesicle. Conn Med 2002; 66 (5): 259-260.

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Fig. 3c. Positivity for S-100 protein (400x).