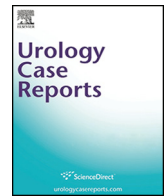




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## Endourology

## Laparoscopic excision of seminal vesicle cystadenoma

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## ARTICLE INFO

## Keywords:

Seminal vesicle cystadenoma  
Laparoscopic excision  
Seminal vesicle

## ABSTRACT

We present a case of seminal vesicle cystadenoma in a 58 years old man who presented with obstructive urinary symptoms. Computed tomography scan and magnetic resonance imaging revealed a mass in the left seminal vesicle of the patient with the maximal diameter of 63mm. PSA levels were within normal range. A trans rectal ultrasonography biopsy revealed benign fibromuscular tissues. Emission computed tomography result was negative for bone metastasis. Laparoscopic excision of the seminal vesicle cystadenoma was performed successfully. Pathology results were consistent with benign seminal vesicle cystadenoma. The patient was discharged on the third postoperative day and is currently asymptomatic.

## Introduction

Seminal vesicle is a convoluted glandular sac about 10–15cm long and 1–2cm wide. It is located at the posterior part of the prostate, the lateral part of the vas deference, the base of the bladder and the rectum. The seminal vesicle is mainly composed of circuitous tubules with each gland being curved and having many irregular lacunae. The mucosa of the gland extends out of a series of special folds which enlarges the secretory area and facilitates secretion and expansion of glands. The free and enlarged part of the upper seminal vesicle is the base and the lower part is the excretory duct of the seminal vesicle. Seminal vesicle tumors can be divided into benign tumors and malignant tumors. Benign tumors include: fibromas, leiomyosarcomas, cystadenomas, schewannomas and papillary adenomas. Malignant tumors are mainly adenocarcinomas, sarcomas which are very rare.<sup>1</sup> Seminal vesicle tumors are more common in middle aged men. Majority of patients present symptoms of hematuria, dysuria, hemastospermia, lower urinary tract syndrome, increased urinary frequency, painful defaecation.<sup>2</sup> The wide variety of clinical features may vary due to the size and location of the mass. We present a rare case of seminal vesicle cystadenoma of a 58 year old man who came to our hospital with hematuria, dysuria and an increased urinary frequency. Clinical presentation, imaging & lab tests, surgical approach & management and pathology are described.

## Case study

A 58 years old man, presented with hematuria, dysuria and an increased urinary frequency; no hematospermia was indicated. The symptoms initiated one month prior to the clinical visit. Past medical

and surgical history was negative. Abdominal ultrasound test revealed no organ abnormalities except for left seminal vesicle mass sized 55\*43\*53mm. Re-evaluation of the mass with abdominopelvic computed tomography scan and magnetic resonance imaging revealed a case of seminal vesicle cystadenoma. Based on CT and MRI results (Fig:1), the maximal diameter of the mass was determined to be 63mm. Routine blood and laboratory studies were normal. Prostate specific antigen was also within normal range 1.02ng/ml (normal range 0–3.1ng/ml). Trans rectal ultrasonography biopsy revealed benign fibromuscular tissue, columnar epithelium, epithelial hyperplasia, interstitial fibroblasts and spindle shaped smooth muscle cell; nuclear atypia was seen. Emission computed tomography was negative for bone metastasis. The patient was then referred for possible surgery and the laparoscopic excision of the seminal vesicle was successfully performed. The pathology was consistent with benign seminal vesicle cystadenoma. The patient was discharged on the third postoperative day and is currently asymptomatic.

## Surgical procedure

The patient underwent laparoscopic excision of the seminal vesicle. The patient was operated under general anaesthesia. An incision 2cm superior to the umbilicus was made and the peritoneal cavity was filled with carbon dioxide through a Veress needle introduced transumbilically. A 12mm trocar was inserted and the camera inserted. Two trocars: 10mm trocar on the right side and 5mm trocar on the left side were inserted lateral to the rectus under visual control. A 5mm trocar was inserted lateral to the mass. The patient was then placed in the Trendelenberg position. A Foley catheter was placed in the bladder for

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Received 2 April 2019; Received in revised form 2 May 2019; Accepted 6 May 2019

Available online 07 May 2019

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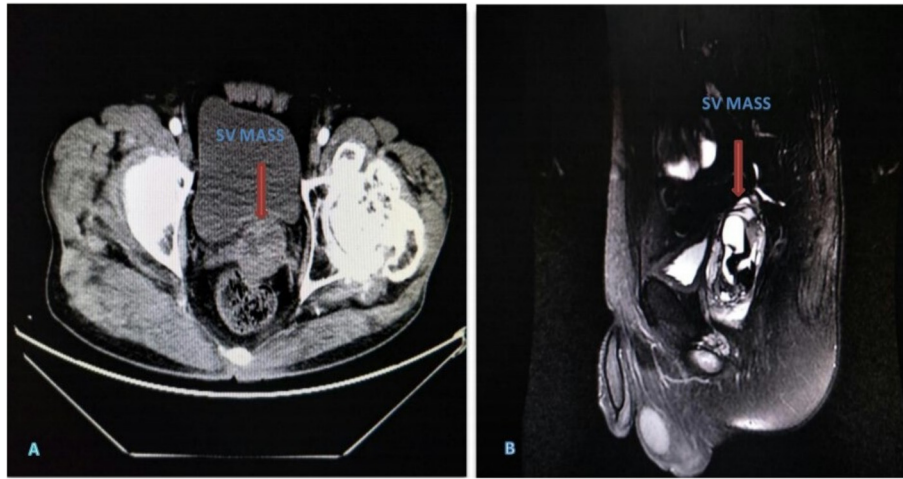


Fig. 1. (A)CT scan axial image revealing an expanded left seminal vesicle.(B) T2 WI MRI Sagittal image revealing a seminal vesicle cystadenoma.

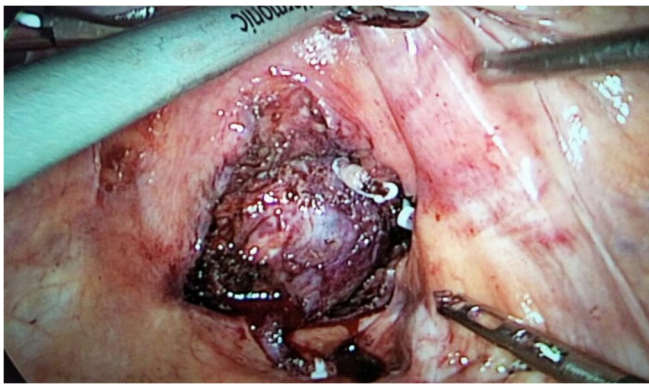


Fig. 2. Laparoscopic view of the mass after the peritoneum and adjacent structures were incised.

drainage. The laparoscopic procedure was performed at an insufflation pressure of 14 mmHg. The vas could be traced from the inguinal ring. The retrovesical peritoneum was carefully incised using Harmonic devices. The mass was exposed and dissection was carried laterally attempting to expose the lateral margin of the seminal vesicle(Fig:2). The adjacent structures surrounding the mass were incised. The mass was then completely removed. Homeostasis was then performed and a 19F drained tube was inserted. The operation time was approximately 2 h with minimal blood loss. The pathology was consistent with benign seminal vesicle cystadenoma. The patient was discharged on the third postoperative day and is currently asymptomatic.

## Discussion

Diseases of the seminal vesicles are very rare. Benign tumors can appear as complex, solid cystic retro vesical masses and are often totally asymptomatic. However, they can also lead to obstructive urinary symptoms and unspecific signs, such as hematuria, hemastospermia, perineal or post coital discomfort and painful defaecation. The advancement in imaging technology has vastly improved the detection of seminal vesicle mass. Endorectal prostatic Sonography has become routine and allows trans rectal fine needle biopsy. A CT scan may delineate the general appearance of the structure of the pelvic cavity and raise suspicion of seminal vesicular mass. MRI, especially using endorectal coils, is superior to other modalities in determining the origin and the nature of retrovesical mass. All tumors of the seminal vesicle are resected using laparoscopic ablation or open surgery depending on the anatomical location and size of the mass. Although open surgery has

been considered the definitive form of treatment, with excellent results; the risk of significant morbidity, rectal and bladder wall injury, ureteral injury, erectile neurovascular bundle and pelvic urinoma is much higher in comparison to other surgical methods<sup>3</sup>. The laparoscopic approach provides straightforward access and excellent visualization of the retrovesical seminal vesicles. Its blood supply can be meticulously controlled and the seminal vesicles can be cleanly dissected free of the bladder, prostate and overlying peritoneum without entering the bladder or rectum therefore associated with minimal postoperative morbidity, short hospitalization time and rapid recovery for the patient.<sup>4</sup> Macroscopically, a prominent feature of cystadenomas of the seminal vesicle in microscopic examination is that the cystic area is lined with a single layer of columnar or cuboidal epithelium surrounded by a fibrous stroma<sup>4</sup> as seen in our case where the cysts were lined by single layer of benign low columnar epithelial cells. The stromal component surrounding the glands was focally densely cellular, which was marked overgrowth, nuclear atypia and rich in mitotic activity(Fig:3).

## Conclusion

Surgical intervention may be considered as soon as possible when a cystadenoma of the seminal vesicle is diagnosed. Symptoms or tumor growth occur because the tumor of the seminal vesicle may be malignant or it may grow and become more difficult to excise. Although debatable, we propose laparoscopy as the treatment of choice for the management of symptomatic seminal vesicle tumors because of its minimal invasiveness and short postoperative hospitalization.

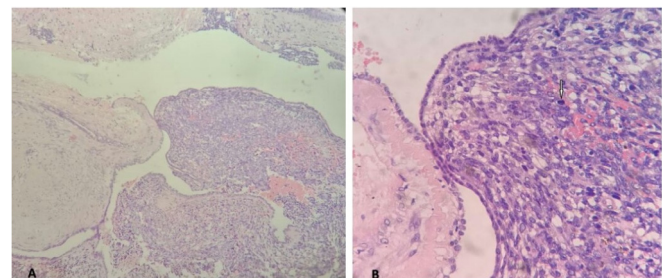


Fig. 3. The cysts were lined by single layer of benign low columnar epithelial cells. The stromal component surrounding the glands was focally densely cellular(A), which was marked overgrowth, nuclear atypia and rich in mitotic activity(B).

### Conflicts of interest

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

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