

Seminal Vesicle Cyst : A Case Report

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ABSTRACT : *We report the case of a patient in whom a seminal vesicle cyst was incidentally discovered intraoperatively during a transurethral resection of the prostate. The patient subsequently underwent MRI, which demonstrated findings suggestive of a cyst of the genital tract. The diagnosis of a seminal vesicle cyst was confirmed after cytological analysis of the aspirated cyst fluid.*

INTRODUCTION :

Seminal vesicle cysts are rare benign lesions that may have congenital or acquired etiologies. Congenital cysts are generally associated with developmental abnormalities of the mesonephric (Wolffian) duct. Acquired cysts are more frequently related to obstruction or inflammation of the ejaculatory ducts. It is important to note that congenital cysts are more common than acquired forms, and approximately 67% to 75% of patients with congenital seminal vesicle cysts may present with associated urinary tract anomalies.

These cysts are often discovered incidentally during radiological examinations but may also be associated with symptoms such as hemospermia, pelvic pain, pollakiuria, and ejaculatory disorders. Diagnosis relies primarily on imaging modalities, particularly computed tomography (CT) and magnetic resonance imaging (MRI), which provide detailed anatomical information and help differentiate seminal vesicle cysts from other pelvic pathologies.

Although initially asymptomatic, these cysts may enlarge over time and lead to lower abdominal or pelvic symptoms, including pollakiuria, dysuria, constipation, painful ejaculation, perineal pain, and especially hemospermia, which is the most frequently reported symptom (approximately 40.9%). Other complications may include prostatitis and male infertility.

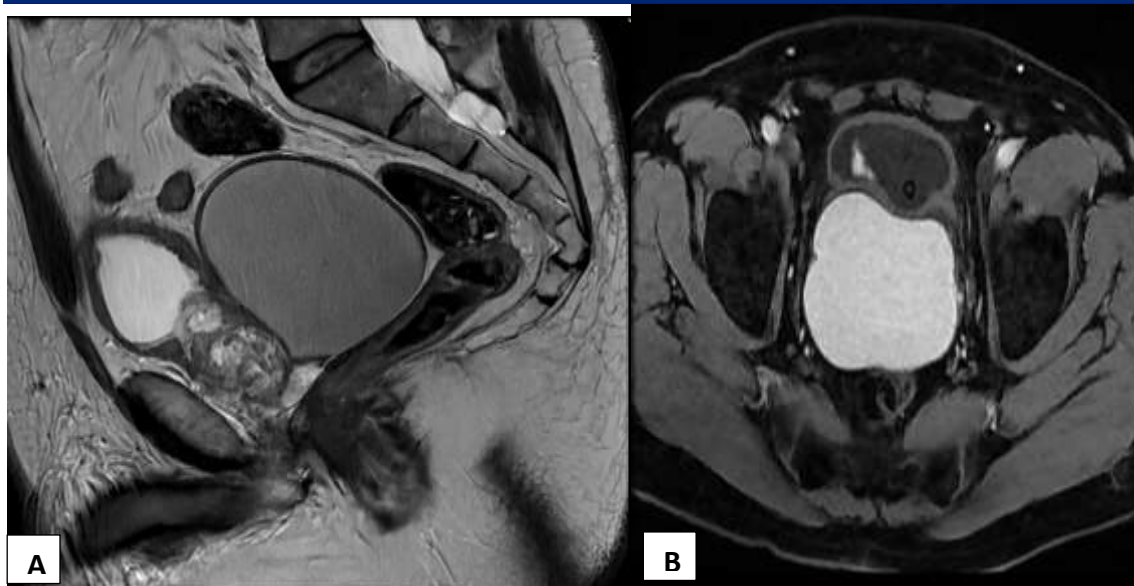
CASE PRESENTATION :

A 63-year-old male patient was admitted to the Urology Department of Mohammed V Military Teaching Hospital for management of symptomatic benign prostatic hyperplasia, presenting with lower urinary tract symptoms including pollakiuria, pelvic pain, and recurrent urinary tract infections.

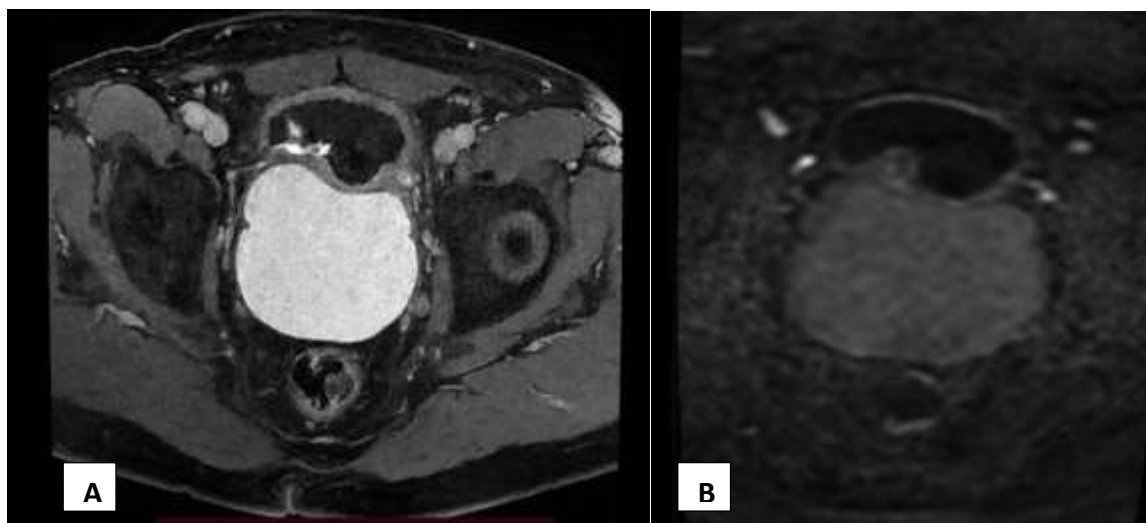
The patient underwent transurethral resection of the prostate (TURP), during which a median retroprostatic lesion was incidentally discovered.

At the request of the urologic surgeon, prostate magnetic resonance imaging (MRI) was performed, revealing a large median retroprostatic cystic lesion with thin and regular walls and homogeneous content, demonstrating high signal intensity on T1-weighted images and intermediate signal intensity on T2-weighted images, without diffusion restriction or gadolinium enhancement.

The imaging findings suggested either a Müllerian duct cyst or a seminal vesicle cyst. Cytological analysis of fluid obtained by cyst aspiration confirmed seminal origin of the cyst content, establishing the diagnosis of a seminal vesicle cyst.



MRI sequences: Sagittal T2-weighted image (A) and axial T1-weighted fat-suppressed image (B) showing a retroprostatic cystic lesion with high signal intensity on T1 fat-suppressed sequences and intermediate signal intensity on T2-weighted imaging.



MRI sequences: Contrast-enhanced axial T1-weighted fat-suppressed image (A) and diffusion-weighted image (B) demonstrating a non-enhancing cyst after gadolinium administration with no diffusion restriction.

DISCUSSION :

Over recent years, advances in imaging technologies have progressively improved the detection of seminal vesicle pathologies, particularly with the development of magnetic resonance imaging (MRI). MRI provides excellent anatomical resolution of the seminal vesicles and has become a key diagnostic tool for identifying associated abnormalities.

Typical MRI features of seminal vesicle cysts include thin-walled cystic lesions, either unilocular or multilocular, located in the pelvic region at the level of the seminal vesicles. Signal characteristics depend on the intracystic content. Classically, simple cysts demonstrate low signal intensity on T1-weighted images and high signal intensity on T2-weighted images. However, signal variations are frequently reported in the literature. T1 hyperintensity may be observed in the presence of protein-rich fluid or old hemorrhagic content (methemoglobin), reflecting T1 shortening.

Similarly, intermediate T1 signal intensity or heterogeneous appearance may indicate mixed cystic content composed of thick seminal secretions, cellular debris, or hemorrhage. These signal variations are well described and represent an important feature for tissue characterization.

MRI also allows detection of associated anomalies, particularly ipsilateral renal agenesis—characterized by absence of the kidney in the renal fossa—or vas deferens agenesis, suggesting a congenital origin. This constellation may indicate **Zinner syndrome** : a congenital triad comprising unilateral renal agenesis, ipsilateral seminal vesicle cyst, and ejaculatory duct obstruction. In addition, MRI enables assessment of anatomical relationships and exclusion of differential diagnoses.

The differential diagnosis of retrovesical cystic lesions mainly includes Müllerian duct cysts (typically midline with normal seminal vesicles), ejaculatory duct or vas deferens cysts (usually paramedian), and ureterocele. Topographic analysis and MRI signal characteristics generally allow accurate diagnosis without the need for invasive investigations.

From an evolutionary standpoint, most seminal vesicle cysts remain stable over time and asymptomatic. MRI signal changes may occur during follow-up, particularly increased T1 signal intensity related to progressive accumulation of seminal secretions. In contrast, cyst size usually remains stable in most cases.

CONCLUSION :

Seminal vesicle cysts are rare lesions, often asymptomatic and incidentally discovered, or diagnosed following complications such as bladder compression. MRI is an essential diagnostic tool for seminal vesicle cysts, providing detailed anatomical information and imaging characteristics that allow differentiation from other pelvic pathologies.

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