Clinical History:

A 71-year-old man was referred by the general practitioner for further evaluation of an incidental cystic lesion in the pelvis detected on US. The patient had no relevant medical or surgical history beyond benign prostatic hyperplasia.

Imaging Findings:

A pelvic CT was initially performed, showing a well-defined, water attenuation lesion that seemed to arise from the right seminal vesicle. MRI followed for more detailed anatomic evaluation. A right seminal vesicle cyst with no signals of complication was documented. A normal-appearing left seminal vesicle was depicted as an elongated fluid-containing structure with thin septa. Vasa deferentia had a normal morphology and both kidneys were present.

Discussion:

Seminal vesicle cysts (SVC) may be congenital or acquired. Congenital SVC can be classified as isolated cysts, cysts associated with upper urinary tract anomalies, and cysts associated with autosomal dominant polycystic kidney disease. [1] Acquired SVC are seen most often secondary to obstruction by benign prostatic hypertrophy, chronic infection and scarring of seminal vesicle or ejaculatory duct or prior prostate surgery. [2] Congenital SVC may be associated with other urogenital anomalies, as the male genital and urinary systems are closely related embryologically and anatomically. SVC are associated with ipsilateral renal agenesis or dysplasia in two-thirds of patients. Ectopic ureteral insertion into the seminal vesicle, ejaculatory duct, vas deferens or prostatic urethra, or vas deferens agenesis may be associated. [1] Zinner’s syndrome, first described in 1914, is a triad of unilateral renal agenesis, ipsilateral seminal vesicle cyst, and ejaculatory duct obstruction. [3]

Age of presentation of congenital cysts is second and third decades of life, while acquired cysts are most often seen in the elderly age group. Smaller cysts may be detected incidentally. Symptoms mostly develop due to the irritation of adjacent organs by the enlarged and inflamed cyst. Bladder irritation causes urgency, frequency, dysuria, and haematuria. Cyst distension may cause perineal, suprapubic, flank, pelvic and scrotal pain; haematospermia; postcoital pain or discomfort. Occasionally infertility may be the chief complaint. [1]

On CT, SVC may be seen as well-defined, water or near water attenuation lesion or as thick and irregular-walled cyst with hyperdense contents in cases of secondary haemorrhage or infection. SVC are classically located in the retrovesical region and cephalic to prostate. [2] On MRI, SVC are seen as well-defined, intraseminal, unilocular round or oval cystic lesions, with variable signal intensity on T1-weighted images and, most often, fluid signal intensity on T2-weighted images. Increased T1 signal
intensity is thought to reflect haemorrhage or proteinaceous fluid. MRI is an excellent technique for defining anatomical relationships and to reach the correct diagnosis. When symptomatic, surgical excision is the treatment of choice. MR imaging may be helpful in the setting of surgical planning.

The diagnosis of seminal vesicle anomalies is often delayed or missed. Although rare, they are likely to be increasingly encountered because of the disseminated use of pelvic CT and MRI.

It should be stressed that SVC often are not isolated, coexisting with others urogenital anomalies, and therefore, comprehensive imaging examination should be performed.

**Differential Diagnosis List:** Seminal vesicle cyst, Prostatic cysts, Ejaculatory duct cyst, Diverticulosis of the ampulla of the vas deferens, Müllerian duct cysts, Seminal vesicle cystadenoma, Seminal vesicle papillary adenoma

**Final Diagnosis:** Seminal vesicle cyst

**References:**

**Figure 1**

**Description:** Axial enhanced CT shows large right seminal vesicle cyst (arrow) to be a well-defined low attenuation mass, posterior to bladder and arising from seminal vesicle. UB (urinary bladder).

**Origin:**
Maciel C, Department of Radiology, Hospital de São João, Porto, Portugal
Description: Coronal enhanced CT shows large right seminal vesicle cyst (arrow) to be a well-defined low attenuation mass, arising from seminal vesicle and cephalic to prostate (P). UB (urinary bladder).
Origin: Maciel C, Department of Radiology, Hospital de São João, Porto, Portugal
**Description:** Axial T1 (A) and T2-weighted (B) MR images show a well-defined lesion within the right seminal vesicle, with low T1 and high T2 signal intensity (arrows). Notice the left seminal vesicle (curved arrow). **Origin:** Maciel C, Department of Radiology, Hospital de São João, Porto, Portugal
**Description:** Sagittal T2 weighted image shows the seminal vesicle cyst (arrow) located posterior to the urinary bladder (UB) and cephalic to prostate (P). **Origin:** Maciel C, Department of Radiology, Hospital de São João, Porto, Portugal
Description: Coronal T2 weighted image shows a right seminal vesicle cyst (arrow) measuring approximately 3 cm in its greatest diameter. Origin: Maciel C, Department of Radiology, Hospital de São João, Porto, Portugal
Figure 3

Description: Coronal T2W image. The ampullary portions of vasa deferentia (arrows) are seen as tubular structures located medially to the seminal vesicles. Left seminal vesicle (curved arrow). SCV (seminal vesicle cyst); UB (urinary bladder). Origin: Maciel C, Department of Radiology, Hospital de São João, Porto, Portugal