Case 11815

Findings suggestive of ejaculatory duct obstruction during transabdominal pelvic ultrasound
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Section: Uroradiology & genital male imaging
Area of Interest: Genital / Reproductive system male
Procedure: Diagnostic procedure
Imaging Technique: Ultrasound
Special Focus: Cysts Dilatation Case Type: Clinical Cases
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Patient: 45 years, male

Clinical History:

A 45-year-old male patient presented with secondary infertility of 5 years duration and right hypochondrial recurrent colicky pain of more than 3 months duration. Abdominal and pelvic ultrasound examination was requested by the treating physician to investigate the cause of the pain.

Imaging Findings:

A 1 cm right renal calyceal stone was noted with no significant back pressure changes (images not shown). The pelvic images revealed a hypoechoic simple cystic lesion in the midline of the prostate gland. The cyst measured about 8 mm in diameter, and didn't show any internal septations or solid components (Fig. 1a). Slight cranial angulation of the ultrasound probe in a transverse section examination revealed dilated seminal vesicles on both sides, measuring about 1.9 cm in diameter (Fig. 1b). Moreover, the vasal ampulla and the vas deferens were clearly seen as dilated tubular structures (Fig. 1c, 2). No other significant findings could be detected during imaging.

Discussion:

Background:
Chronic infection of the accessory sexual glands in men is a common cause of ejaculatory duct obstruction (EDO) [1]. EDO is a surgically correctable cause of male infertility, with an incidence of about 1-5% among infertile men [2]. It is theorized that EDO develops as a result of ED scarring; or it may be functional obstruction as a result of altered compliance of the ED walls or surrounding prostatic tissue [3, 4].

Clinical Perspective:
EDO is one of the causes of male infertility. Cases presenting with severe oligospermia or azoospermia together with low ejaculate volume (? 1.5 ml) and high sperm count (? 3 per high per field) in semen aspirate are diagnosed with EDO [3].

Imaging Perspective:
The finding of dilated midline prostatic cyst (Ejaculatory duct cyst) together with dilated seminal vesicles (?1.5 cm in diameter), vasal ambulla (?6mm) and ejaculatory ducts (EDs) (?2mm) are highly suggestive of EDO in the appropriate clinical setting [3, 5].

While Transrectal Ultrasound (TRUS) is the imaging modality of choice for assessment of EDO, radiologists should...
be aware that the same findings may sometimes be clearly visualized during routine pelvic ultrasound examination, as in this case. A midline prostatic cyst should raise suspicion of EDO, and an ED cyst has to be differentiated from utricular and Mullerian duct cysts. While utricular cyst appears as a tubular median cyst at the level of the verumontanum, Mullerian duct cyst is rounded or cone-shaped with downward apex. On the other hand, ejaculatory duct cyst appears as thin or thick walled elliptical cysts along the course of the ejaculatory duct [6]. The association of the ED cyst with dilated seminal vesicles and vas deferens is suggestive of EDO.

It is important to note that not every case presenting with ED cyst and dilated seminal vesicles suffers EDO [3]. Research reports showed that these structures may be dilated in the absence of obstruction in up to 50% of the cases [4, 7]. Thus, it is important to correlate the imaging findings with the clinical presentation of the patient.

Outcome:
Transurethral resection of the ejaculatory ducts (TURED) is the standard surgical treatment option for EDO [2].

Take home messages:
* The finding of midline prostatic cyst during transabdominal pelvic ultrasound should raise suspicion of EDO.

* Imaging findings alone are not sufficient for diagnosis of EDO, and need to correlate with the clinical and laboratory data for definitive diagnosis of EDO.

Differential Diagnosis List: Ejaculatory duct obstruction with dilated seminal vesicles., Ultricular cyst, Mullerian duct cyst

Final Diagnosis: Ejaculatory duct obstruction with dilated seminal vesicles.

References:
Figure 1

Description: Midline prostatic cyst (Ejaculatory duct cyst) measuring about 8 mm in diameter. Origin: Shehata IA, Department of Diagnostic and Interventional Radiology, Cairo University, Egypt.
**Description:** Dilated left seminal vesicle measuring about 1.9 cm in diameter

**Origin:** Shehata IA, Department of Diagnostic and Interventional Radiology, Cairo University, Egypt.
Description: The dilated left vas deferens (arrow) seen adjacent to the seminal vesicles (S). Origin: Shehata IA, Department of Diagnostic and Interventional Radiology, Cairo University, Egypt.
**Description:** Video file showing the identification of ejaculatory duct cyst, dilated seminal vesicles, vasa and ampullae during transverse ultrasound examination. **Origin:** Shehata IA, Department of Diagnostic and Interventional Radiology, Cairo University, Egypt.