Yemen Journal of Medicine

https://yemenjmed.com

Article information

DOI: 10.63475/yjm.v5i1.0377

Article history:
Received: 12 April 2026
Accepted: 25 April 2026
Published: 30 April 2026

Correspondence to:
Sajad Ahmad Salati
Email: S.SALATI@qu.edu.sa
ORCID: 0000-0003-2998-7542

How to cite this article
Salati AA, Salati SA. Incidental large exophytic prostatic cyst in an asymptomatic male: diagnostic evaluation and management. Yemen J Med. 2026;1(1):220-223.

Case Report

Incidental Large Exophytic Prostatic Cyst in an Asymptomatic Male: Diagnostic Evaluation and Management

Aasim Ajaz Salati[1], Sajad Ahmad Salati[2]

1 Postgraduate Year 1, Department of Pharmacology, Government Medical College, Jammu, India
2 Professor, Department of Surgery, College of Medicine, Qassim University, Saudi Arabia

ABSTRACT

Prostatic cysts are generally small, intraprostatic, and incidental. Large, multiloculated, exophytic cysts are rare and can mimic pelvic neoplasms. We report an incidental discovery of a large exophytic prostatic cyst in an asymptomatic 57-year-old male. Multiparametric magnetic resonance imaging (mpMRI) demonstrated T1 and T2 hyperintensity, suggesting proteinaceous or hemorrhagic content. Magnetic resonance spectroscopy (MRS) provided essential metabolic context, revealing a preserved citrate peak and a high citrate-to-choline ratio, which supported a benign impression. This was further corroborated by a low prostate-specific antigen (PSA) density (0.068 ng/mL/cc). Transrectal ultrasound–guided aspiration yielded 20 mL of hazy brownish fluid; cytopathology confirmed the absence of malignancy. This case emphasizes the diagnostic value of combining mpMRI, MRS, and PSA density to characterize large, complex prostatic "incidentalomas" non-invasively. Such a multi-modal approach facilitates conservative management, sparing asymptomatic patients from unnecessary surgical intervention even in the event of subsequent cyst reaccumulation.

Key words: Prostatic cyst, multiparametric magnetic resonance imaging, proton magnetic resonance spectroscopy, citrates, PIRADS

INTRODUCTION

Prostatic cysts are relatively common clinical findings, typically identified incidentally during imaging for lower urinary tract symptoms (LUTS) or elevated prostate-specific antigen (PSA) levels. While the prevalence of these cysts in the general population ranges from 0.5% to 7.9%, most are small, intraprostatic, and asymptomatic. [1, 2]

They are generally classified into six categories, based on their location, form, embryogenic origin, link to seminal vesicles or the prostatic urethra, and presence of sperms: (i) isolated medial cysts (e.g., prostatic utricle or Mullerian duct cysts), (ii) paramedian cysts (ejaculatory duct cysts), (iii) dilated prostatic utricles, (iv) cysts of the prostatic parenchyma (retention cysts), (v) cystic tumors, and (vi) cysts associated with infectious diseases. [1–3]

Large exophytic cysts exceeding 3 cm in diameter are rare and often pose a diagnostic challenge, as they can mimic other pelvic masses or obstruct adjacent structures, such as the rectum or the bladder neck. The advent of multiparametric magnetic resonance imaging (mpMRI) and magnetic resonance spectroscopy (MRS) has significantly improved the non-invasive characterization of these lesions, allowing clinicians to differentiate benign proteinaceous or hemorrhagic cysts from cystic neoplasms or abscesses. [3, 4]

CASE PRESENTATION

A 57-year-old male sought medical evaluation after an incidentally detected Prostate-specific antigen (PSA) level of 5.5 ng/mL (0.0–3.5 ng/mL) during a self-requested blood panel. He was clinically asymptomatic, denying any lower urinary tract symptoms (LUTS), haematuria, or pelvic pain. Digital rectal examination (DRE) revealed an enlarged prostate with a smooth, fluctuant mass at the right prostatic base and imaging studies were initiated (**Table 1**). Abdominal ultrasonography and transrectal ultrasonography (TRUS) revealed a significantly enlarged prostate (volume - 80 cc, Grade III prostatomegaly) and a well-defined, thick-walled, multiloculated cystic lesion measuring 38 x 34 x 28 mm was noted in the right basal region. [**Figure 1A**] Given the prostate volume of 80 cc, the calculated Prostate-Specific Antigen density (PSAD) was 0.068 ng/mL/cc.

To better characterize its exophytic extent and relationship to adjacent pelvic structures, a multi-parametric MRI was performed. The MRI provided more definitive measurements of 44 × 43 × 31 mm (4.4 cm), highlighting the superior ability of cross-sectional imaging to delineate the craniocaudal boundaries of large exophytic masses. It exhibited high signal intensity on both T1 and T2 weighted images, characteristic of proteinaceous or subacute haemorrhagic fluid. [**Figure 1B**] The cyst was seen indenting the anterior wall of the rectum. The transitional zone (background benign prostatic hyperplasia nodules) showed Prostate Imaging Reporting and Data System (PI-RADS) score of 2 consistent with Benign Prostatic Hyperplasia (BPH). The cyst itself was characterized as a benign non-PI-RADS cystic lesion. MR Spectroscopy (MRS) evaluation showed a high citrate peak and low choline-to-creatine ratio, reinforcing the benign nature of the lesion and excluding metabolic activity suggestive of malignancy.

Following the imaging, a TRUS-guided aspiration was performed for both therapeutic decompression and diagnostic confirmation. Approximately 20 ml of hazy, brownish fluid was aspirated, providing ample volume for comprehensive cytological analysis. Cytopathology smears showed numerous foamy histiocytes, scattered benign squamous cells, and red blood cells (RBCs) in a proteinaceous background, with a notable absence of malignant cells, high-grade atypia, or hemosiderin-laden macrophages. [**Figure 1C**] Microbiological analysis of the aspirated fluid reported negative for Acid-Fast Bacilli (AFB). A core needle biopsy of the cyst wall was deferred; given the classic thin-walled appearance on MRI, the low PSA density, and the benign cytological profile, the lesion was deemed to have a very low risk for cystic neoplasm, and it was classified as Category IV (cyst of the prostatic parenchyma/retention cyst). The patient was counselled and advised to have regular follow-up. At one-year follow-up, the patient was asymptomatic, and TRUS revealed a reaccumulated prostatic cyst with benign features, very similar to the initial images.

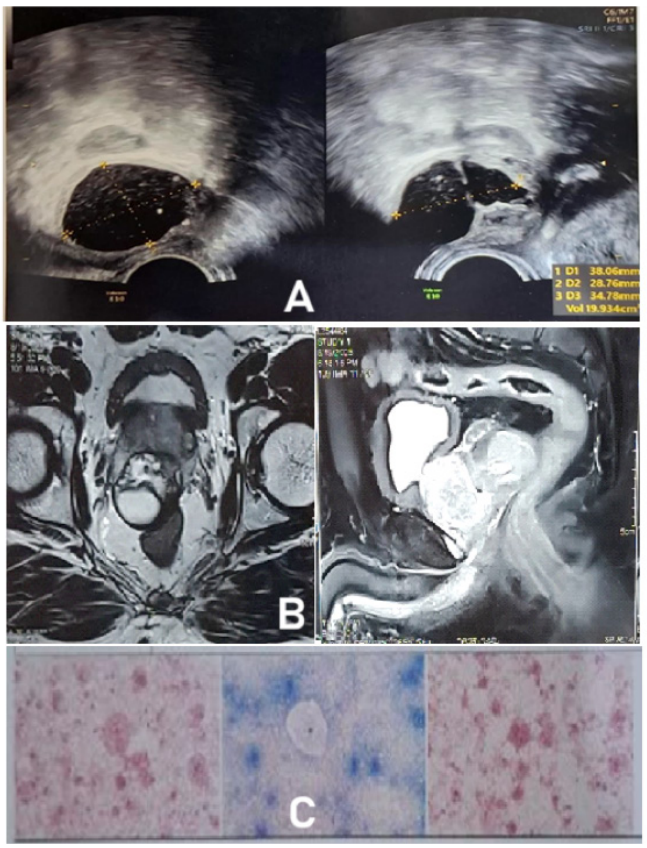

Figure 1: Diagnostic workup of a large prostatic cyst. (A) TRUS: axial and sagittal views showing a 38 × 29 × 35 mm cystic lesion in the right basal region of an 80-cc prostate. (B) mpMRI: T2-weighted axial and sagittal images showing a 4.4 cm hyperintense, exophytic cyst in the peripheral zone indenting the anterior rectal wall. (C) Cytology: photomicrographs (H&E and special stains) showing foamy histiocytes and RBCs; negative for malignancy and AFB.

Table 1: Summary of multi-modal imaging findings.

Imaging modality	Key findings	Measurements/characteristics
Transabdominal USG	Grade III prostatomegaly; post-void residual urine of 57 cc.	Prostate vol: 68–80 cc; Bladder wall: 5 mm
TRUS	Thick-walled, multiloculated cystic area in the right basal region.	38 × 34 × 28 mm
mpMRI (T2W)	Hyperintense, well-encapsulated multiloculated cystic nodule.	44 × 43 × 31 mm
mpMRI (T1W)	High signal intensity within the cyst.	Suggestive of proteinaceous or hemorrhagic fluid.
Anatomical relation	Exophytic component noted.	Indenting the anterior wall of the rectum.
PIRADS version 2.1	Transitional zone nodules (PIRADS 2); Peripheral zone (PIRADS 2).	No suspicious solid enhancing components.

DISCUSSION

Prostatic cysts are common incidental findings, typically categorized by anatomical location and origin. While most are small and intra-prostatic, cysts exceeding 3 cm are relatively rare and often present diagnostic challenges due to their potential to mimic pelvic malignancies or cause pressure-related symptoms. [5, 6]

A significant aspect of the clinical evaluation in this case was the physical examination. On DRE, such a large exophytic lesion typically presents as a smooth, fluctuant, or "boggy" mass protruding against the anterior rectal wall, distinct from the elastic consistency of BPH or the induration associated with malignancy. [6] In our patient, the exophytic nature of the cyst at the prostatic base (as seen in Figure 1B) directly explains the focal bulge palpable on DRE, emphasizing the importance of correlating physical findings with cross-sectional imaging (**Table 2**).

The diagnostic workup was further refined by mpMRI. The identified 4.4 cm cyst exhibited high signal intensity on both T1 and T2-weighted images. This T1-hyperintensity is a key radiological marker, typically indicating the presence of high protein content or subacute hemorrhage within the cyst fluid. [4] In our patient, this correlated with the "hazy brownish" fluid aspirated during the TRUS procedure.

MRS served as a valuable adjunct to structural imaging. In the prostate, citrate is a marker of healthy glandular function, whereas an increase in the choline-to-creatine ratio is a hallmark of malignancy. [7] In our case, the findings demonstrated a preserved citrate peak and a high citrate-to-choline ratio; while not pathognomonic, this metabolic profile provided additional evidence supporting a benign impression.

The patient's PSA was 5.5 ng/mL. Given the prostate volume of 80 cc, the calculated PSAD was 0.068 ng/mL/cc. This value is significantly below the standard 0.15 ng/mL/cc threshold to suggest a higher risk of clinically significant prostate cancer, providing further evidence that the PSA elevation was not attributable to malignancy. TRUS-guided aspiration remains a definitive tool for both symptom relief and diagnostic confirmation. [8] The presence of foamy histiocytes and the absence of atypical cells in our patient's cytology confirmed the benign nature suggested by the MRS. [7] Given the benign metabolic and cytological profile, a conservative "watchful waiting" approach was deemed appropriate, sparing the patient from invasive surgical resection.

At the 1-year follow-up, imaging confirmed that the cyst had reaccumulated to its previous dimensions. While a recurrent cyst often prompts consideration for more definitive surgical management, we maintained a conservative approach as the patient remained entirely asymptomatic with a stable PSA. In this clinical context, the significance of recurrence was viewed as a failure of simple aspiration in the absence of a sclerosing agent to obliterate the secretory lining rather than a progression of disease. Surgical intervention, specifically endoscopic unroofing or laparoscopic excision, remains reserved only for the future development of LUTS or complications, such as infection or mass effect. [9]

CONCLUSIONS

Large exophytic prostatic cysts are rare incidental findings that can mimic pelvic malignancy due to their complex appearance and potential for PSA elevation. This case highlights that mpMRI coupled with MRS provides essential metabolic context; specifically, a preserved citrate peak and the absence of significant choline elevation strongly support a benign impression. When integrated with low PSAD and benign cytological findings, these advanced imaging modalities facilitate a conservative management approach. This multi-parametric evaluation effectively spares asymptomatic patients from unnecessary and invasive surgical interventions, even in the event of subsequent cyst reaccumulation.

PATIENT CONSENT

Written informed consent was obtained from the patient for publication of this case report.

AUTHORS' CONTRIBUTION

All authors have significantly contributed to the work, whether by following the case at the bedside, conducting literature searches, drafting, revising, or critically reviewing the article. They have given their final approval of the version to be published, have agreed with the journal to which the article has been submitted, and agree to be accountable for all aspects of the work.

SOURCE OF FUNDING

None.

CONFLICT OF INTEREST

None.

Table 2: Differential diagnosis of prostatic lesions on DRE.

Condition	Size/shape	Consistency	Surface/borders	Associated findings
Large prostatic cyst	Focal enlargement (Base)	Fluctuant/boggy	Smooth, well-circumscribed	Non-tender; may indent the rectal wall.
BPH	Diffuse enlargement	Elastic/rubber-like	Smooth; median sulcus obliterated	Often associated with LUTS; non-tender.
Adenocarcinoma	Focal or diffuse	Hard/indurated	Irregular or nodular	May feel fixed; loss of lateral sulci.
Acute Prostatitis	Enlarged	Tense/boggy	Smooth but poorly defined	Exquisitely tender; systemic symptoms.

REFERENCES

1. Al-Nasser KA, Almannie RM. New technique for the management of anteriorly located midline prostatic cysts causing severe lower urinary tract symptoms: Case report and literature review. Int J Surg Case Rep. 2019;55:107-111. http://doi.org/10.1016/j.ijscr.2019.01.019
2. El Omri G, Rais H, Bourial A, Heddat A. Prostatic cyst: A rare entity with differential diagnostic challenges in urology - A case report. Urol Case Rep. 2024;53:102696. http://doi.org/10.1016/j.eucr.2024.102696
3. Juárez Soto A, Ribe Subira N, Manasia P, Ruiz Castane E, Castineras Fernandez J, Pomerol Monseny J. Classification of cystic structures located at the midline of the prostate: Our experience. Arch Ital Urol Androl. 2004; 76(2):75-79.
4. Curran S, Akin O, Agildere AM, Zhang J, Hricak H, Rademaker J. Endorectal MRI of prostatic and periprostatic cystic lesions and their mimics. AJR Am J Roentgenol. 2007;188(5):1373-1379. http://doi.org/10.2214/AJR.06.0759
5. Lee JY, Kang DH, Park HY, Park JS, Son YW, Moon HS, et al. An anteriorly positioned midline prostatic cyst resulting in lower urinary tract symptoms. Int Neurourol J. 2010;14(2):125-129. http://doi.org/10.5213/inj.2010.14.2.125
6. Qiu Y, Liu Y, Ren W, Ren J. Prostatic cyst in general practice: A case report and literature review. Medicine (Baltimore). 2018;97(9):e9985. http://doi.org/10.1097/MD.0000000000009985
7. Scheenen TWJ, Fütterer JJ, Weiland E, van Hecke P, Lemort M, Zechmann C, et al. Discriminating cancer from noncancer tissue in the prostate by 3-dimensional proton magnetic resonance spectroscopic imaging: A prospective multicenter validation study. Invest Radiol. 2011;46(1):25-33. http://doi.org/10.1097/RLI.0b013e3181f54081
8. Khan AA, Jain PK, Juneja B, Talha M, Mehdi G, Akhtar K, et al. Evaluation of the role of transrectal fine needle aspiration as a diagnostic modality in the diseases of prostate with review of literature. Ann Pathol Lab Med. 2019;6(3):A171-A179. http://doi.org/10.21276/apalm.2117
9. Lin FX, Feng F, Xu ZP. Real-time transrectal ultrasound-guided transurethral resection of prostate cyst: A novel technique and initial clinical experience. J Surg Case Rep. 2025;2025(6):rjaf407. http://doi.org/10.1093/jscr/rjaf407