



## Cystic Prostate Cancer

Venkatachalam Navaneethkrishnan\* and Narayanasamy Kuppurajan

Department of Urology, Kovai Medical Center and Hospitals, India

### Abstract

Cystic prostatic cancer is an unusual variant of prostatic carcinoma. Cases of cystic prostate cancer were reported in literature since 1994. But the management and follow up of this cystic prostate cancer is still a lacuna. Hence, we are reporting a case of cystic prostate cancer and its management with long term follow-up.

**Keywords:** Neoplastic prostate cysts; Cystic prostatic cancer; T1WI; T2WI

### Introduction

Benign prostatic cysts are common but malignant cysts are relatively rare. Although cysts may be seen in few rare variants of prostatic malignancies, cysts associated with prostatic adenocarcinoma are moreover rare [1]. Although cystic degeneration is a common finding in cancer of other organs, only few cases have been described in prostate cancers [2]. Hence, we report a case of cystic prostate cancer for rarity; its unusual clinical presentation along with management and long term follow-up.

### Materials and Methods

An 80 years old gentleman had acute urinary retention 6 years ago for which he was catheterized. Ultrasound shows a prostate cyst (approx. 100 cc volume). He was referred to our hospital for further evaluation and management. Rectal examination revealed a large cystic, non-tender bulge in the anterior rectal wall. Serum PSA is 80 ng/ml. MRI pelvis revealed a cystic mass arising from left posterior peripheral aspect of prostate (8 cm) with multiple solid nodular frond-like growths in the left lateral wall of the lesion (Figure 1A, 1B). In T2WI the solid lesions are hyperintense and in T1WI, iso-intense to skeletal muscle. Cyst content is hyperintense in T1WI, suggesting hemorrhage within. Diffusion restriction and moderate heterogeneous contrast enhancement is noted within the solid component. MR spectroscopy shows choline creatinine ratio of >1. Along the left lateral aspect, the T2 hypointense wall is not seen, suggesting an extra-capsular extension. No other obvious loss of fat plane noted. Bone scan is normal. The patient underwent transurethral resection of prostate 6 years ago. Cyst fluid is hemorrhagic. Biopsy is consistent with acinar adenocarcinoma. The patient underwent bilateral orchidectomy and given calutide post-orchidectomy. Patient is currently on follow up 6 years after surgery. No urinary retention. Good urinary flow (Qmax - 20 ml/sec) and physical performance. Post-operatively, serum PSA seen after 6 months, 1 & 5 year, is <0.1 ng/ml. MRI pelvis taken 5 years post operatively shows no local recurrence of neither the cyst nor the tumour (Figure 2A, 2B).

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#### \*Correspondence:

Venkatachalam Navaneethkrishnan,  
Department of Urology, Kovai Medical  
Center and Hospitals, No: 99, Civil  
Aerodrome Post, Avinashi Road,  
Coimbatore - 641014, Tamil Nadu,  
India,  
E-mail: drnavaneethkrishnan@yahoo.  
com

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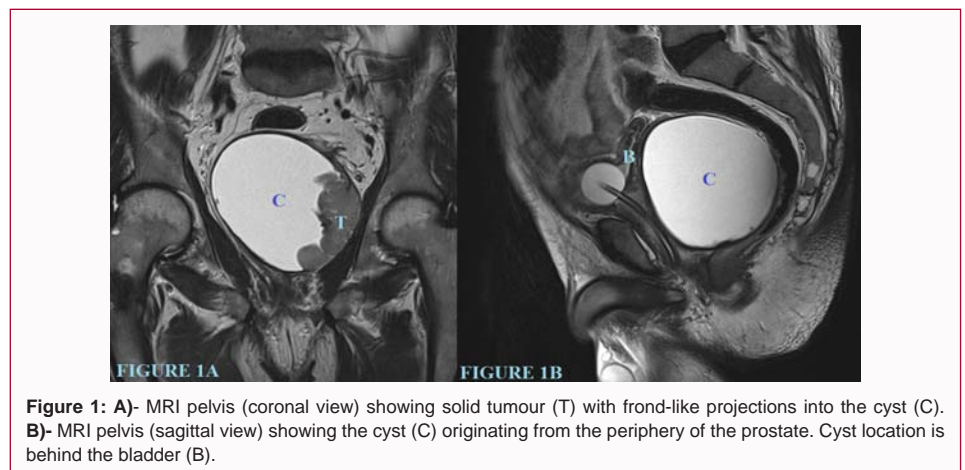
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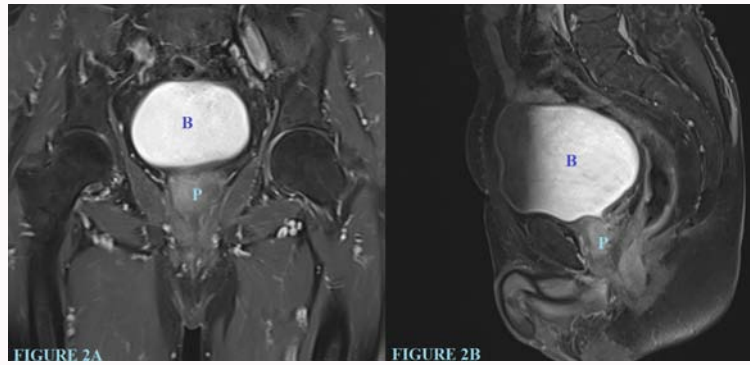
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**Figure 1:** A)- MRI pelvis (coronal view) showing solid tumour (T) with frond-like projections into the cyst (C). B)- MRI pelvis (sagittal view) showing the cyst (C) originating from the periphery of the prostate. Cyst location is behind the bladder (B).



**Figure 2:** A)- coronal view; B)- sagittal view. MRI pelvis taken 5 years after surgery. Urinary bladder (B) and prostate (P). No local recurrence of cyst or tumour.

## Discussion

Prostate cysts are common. They can be categorized into congenital and acquired. Congenital cysts are mullerian or utricle cyst. On the basis of etiology an acquired cysts is categorized into infective, retention and neoplastic. Most of the prostatic cysts are non-neoplastic; intra-prostatic and asymptomatic [1]. Non-neoplastic cyst is characterized sonologically by smooth, regular wall and homogeneous echotexture. Aspirate is clear in a non-neoplastic cyst. A non-homogenous echotexture of a prostatic abscess can be confused with tumour necrosis. But a prostatic abscess is usually located in the periurethral region of prostate and associated with clinical symptoms or signs [3]. Neoplastic prostate cysts are generally rare. Both benign and malignant neoplasia of prostate can produce cysts. Prostatic cystadenoma is a benign tumor which classically forms smooth walled multiloculated giant cysts [1]. A neoplastic cyst is characterized sonologically either as an intrinsic cyst surrounded by solid hypoechoic area or an extrinsic cyst with irregular margin produced by projections of solid element of tissue invaginations. Aspirate is hemorrhagic [3]. Malignant prostate tumors that contain intrinsic cysts include prostatic stromal tumors, clear cell carcinoma of prostatic utricle, papillary cystadenocarcinoma and combined transitional cell& adenocarcinoma [1]. More than 95% of cancers of the prostate are adenocarcinoma [4]. Prostate carcinoma usually presents as lower urinary tract symptoms, hard nodular prostate, raised PSA or acute urinary retention. A carcinoma of prostate presenting as a palpable cystic mass arising retro-vesical from the pelvis is unusual. Differential diagnoses of retro-vesical mass are vesical diverticula, mullerian/wolfian cyst, prostatic retention cyst,

peri-prostatic cysts, and prostatic cystadenoma and exophytic stromal tumors of anorectum [5]. The natural history of cystic prostate cancer has been hypothesized either due to malignant change within a retention cyst or to cystic degeneration of a malignant tumour [1]. Cyst fluid is usually hemorrhagic and contains malignant cells. The fluid also shows a high concentration of PSA and  $\gamma$ -seminoprotein [2]. MRI is useful in differentiating a primary prostatic mass from secondary prostatic involvement. And the presence of enhancing solid elements within the cyst favors neoplasm. Still both benign and malignant neoplasms may share radiological features, making tissue biopsy of the solid component as the gold standard investigation [4]. This disease tends to have a very good prognosis even after 6 years of TURP and B/L orchidectomy.

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