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# A Case of Multilocular Prostatic Cystadenoma

We recently experienced a 43-year-old man with a large, multiloculated, cystic tumor that appeared on the pelvis. The tumor was composed of glands and cysts lined by prostatic-type epithelium and attached microscopically to the prostate by a pedicle. The prostatic nature of the lesions was confirmed by immunohistochemical staining of epithelium for prostate specific antigen (PSA). Our review of literature disclosed nine similar cases in men of various ages, originated from the prostate and grew to massive proportions. The lesions in these reported cases did not invade contiguous structures but they can adhere to viscera in their proximity. The multilocular prostatic cystadenoma is a pathologically benign entity, and they can be definitively treated by a carefully planned complete surgical excision. This lesion should be included in the differential diagnosis of retroperitoneal cystic tumors in man. We report a rare case of multilocular prostatic cystadenoma that did not invade adjacent organs and showed no evidence of recurrence after complete surgical excision.

Key Words : *Prostate; Cystadenoma, multilocular*

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## INTRODUCTION

Benign prostatic cysts are a well-known clinicopathologic entity and can be evaluated with current available diagnostic modalities.

Large multilocular cysts and cystic neoplasms of the prostate are very rare; only a few cases have been reported. The lesions did not invade contiguous structures or showed any malignant characteristics. And also after complete surgical excision, there were no reports of recurrence.

We report a case of large multilocular prostatic cystadenoma developed in the prostate, growed to retroperitoneal space and discuss the pathology with review of literature.

## CASE REPORT

A 43-year-old man presented with painless gross total hematuria and frequency. His medical history was unremarkable. During the physical examination, a large mass was palpable in the lower abdomen. Digital rectal examination revealed mildly soft, round mass superior to the prostate, and no specific abnormal finding in the prostate. Laboratory findings of the blood were normal except for markedly increased serum PSA level (68.2 ng/ml) at admission.

Cystoscopically, there was no specific findings, except anterior displacement of the bladder neck by the suspicious extravesical mass. On excretory urography (IVP), there was a large-sized filling defect on the right upper portion of the urinary bladder that was thought to be a compressed lesion caused by the extravesical mass. But examination of the upper urinary tract showed normal findings (Fig. 1). On pelvic CT and MRI, a $9\times7\times6$ cm-sized oval, low-attenuated mass was demonstrated between bladder and rectum, that contained cystic and solid portions. The mass was contiguous with prostate at the lower margin and in close contact with the posterior wall of the urinary bladder (Fig. 2, 3). Transrectal biopsy of the mass showed chronic inflammatory lesion only.

Exploration of the retroperitoneum revealed a large cystic mass apparently arising in the pelvic floor between the rectum and the urinary bladder. The tumor was found to compress and displace the bladder anterolaterally, and adhere to the prostate and the seminal vesicles. The mass including bilateral seminal vesicles and vas deferenses was excised, the mass was $8\times7.5\times6$ cm and weighed 180 g. The mass was solid and cystic mass. On section, the cystic mass contained reddish-brown serous fluid, and the thickness of the cystic walls aver-

**Fig. 1.** IVP shows a large-sized filling defect on the right upper portion of the bladder, that is probably due to compression by the extravesical mass.

**Fig. 2.** Pelvic CT scan shows a 9×7×6 cm-sized oval mass containing cystic and solid portion between the bladder and rectum.

aged 0.5 cm. The mass was composed of an attenuated large cyst and 6.5×5.5×5.3 cm-sized solid mass, containing multiple small cysts. The cut surface of the mass showed multiple elongated lobules (Fig. 4). Both vas defrens were unremarkable.

Microscopically, the mass was composed of many dilated glands and cysts. The cystic portion showed well developed prostate glands which were variably dilated (Fig. 5). At the solid portion, the mass revealed proliferated glands showing multiple layers of benign epithelium and minimal amount of stroma without identifiable corpora amylaceae. The gland linings were in direct

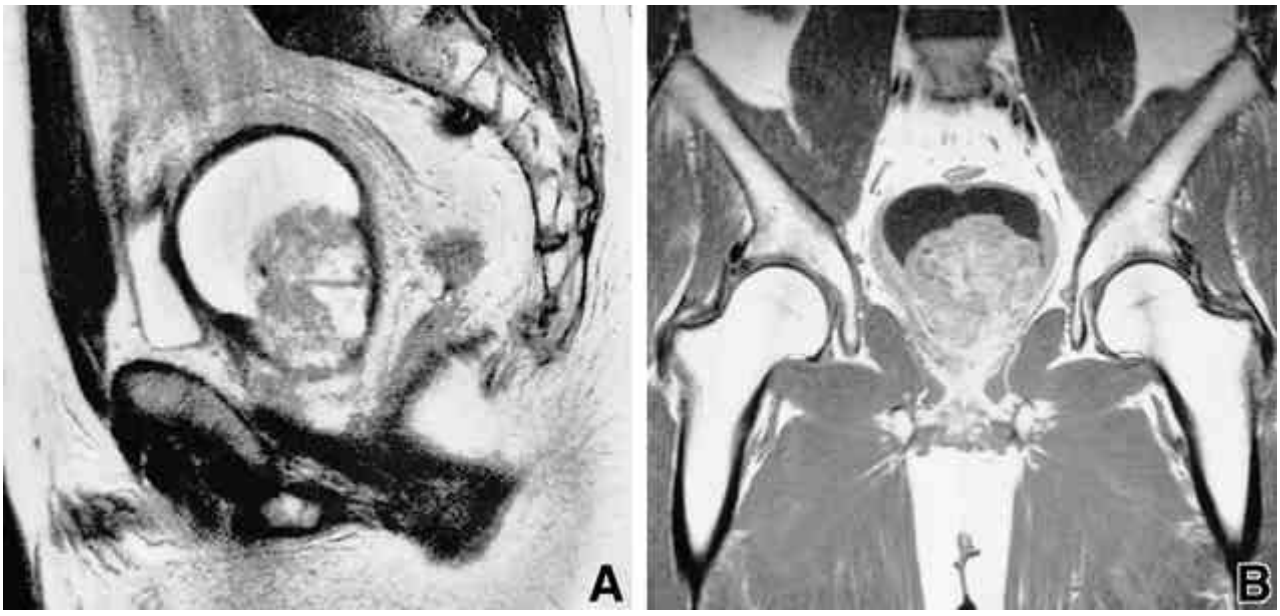


**Fig. 3.** Pelvic MRI demonstrates the relationship between the mass and other organs. A) T2 weighted image of the sagittal section. The mass is contiguous with the posterior wall of the bladder, prostate and seminal vesicles. B) T1 weighted image of the coronal section.

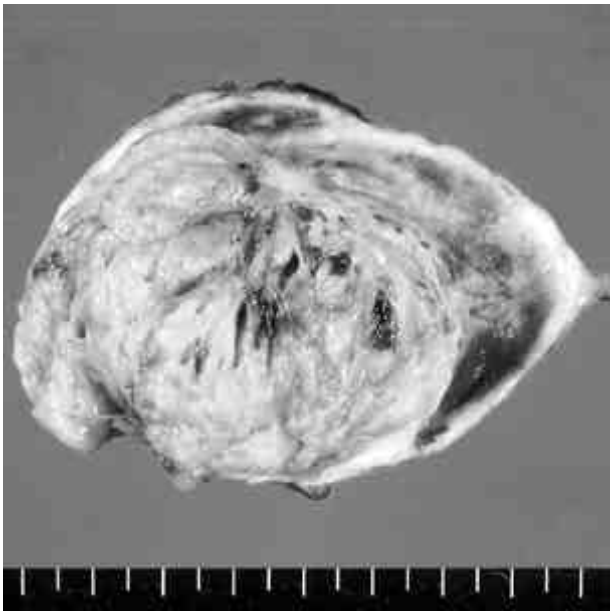

**Fig. 4.** The mass is composed of an attenuated large cyst and solid mass containing multiple small cysts with various size.

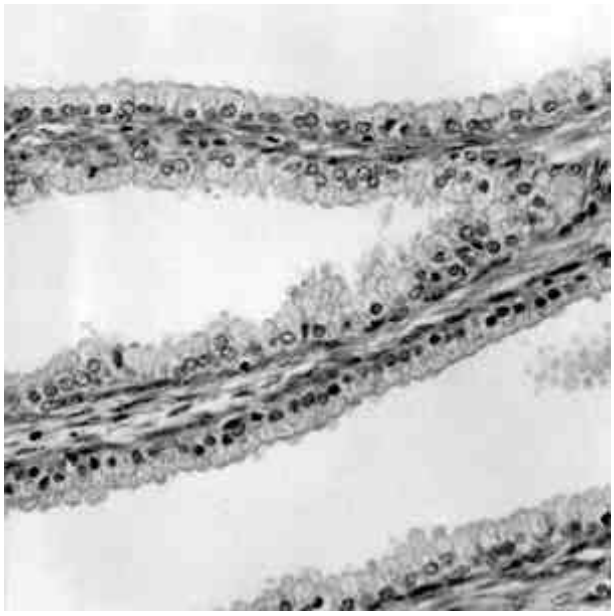

**Fig. 6.** The maximally dilated cysts are lined by cuboidal to low columnar epithelial cells with basally located nuclei (H&E, ×200).

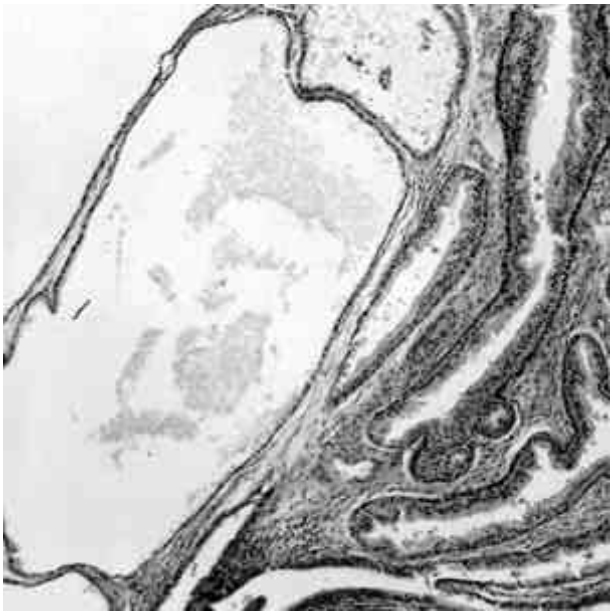

**Fig. 5.** The lesion shows well-developed prostate glands which are variably dilated in the cystic portion (H&E, ×40).

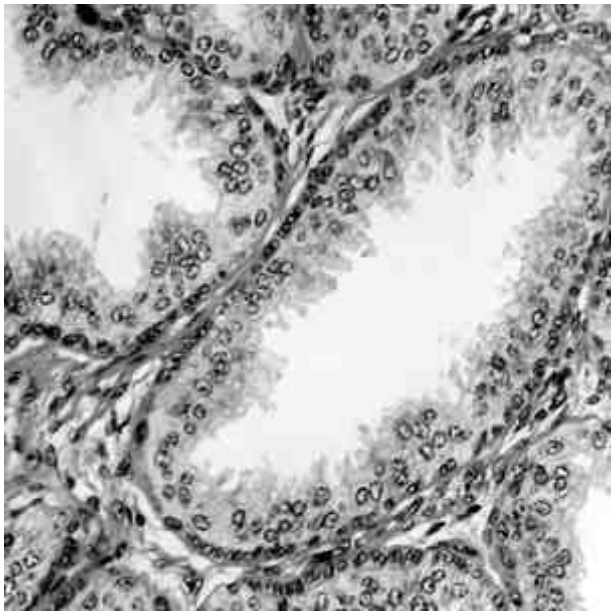

**Fig. 7.** Flattend basal cells beneath the epithelial cells of the hyperplastic glands are constantly present (H&E, ×200).

contact with those in the cystic layer. In between the glands, multiple microcysts were connected to the glandular lumen. The dilated cysts were lined predominantly by cuboidal cells with clear pale cytoplasm and basally located round nuclei (Fig. 6). The flattened basal cells could be identified beneath the cuboidal cells in many areas (Fig. 7). The largest cyst had flattened epithelium and hypocellular fibrotic stroma. The lining cells were immunoreactive to PSA (prostate-specific antigen) (Fig. 8). The stroma surrounding the glands was hypocellular and markedly hyalinized (Fig. 9).

At present, the patient is on a regular outpatient follow-up and has had no specific urological complications and no signs of tumor recurrence.

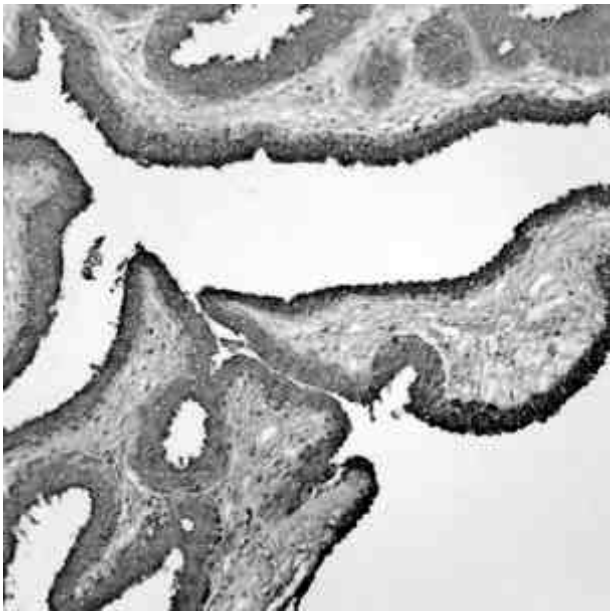

**Fig. 8.** The glandular epithelial cells of the solid and cystic portion show strong reactivity to the PSA (prostate specific antigen) stain (ABC method, ×100).

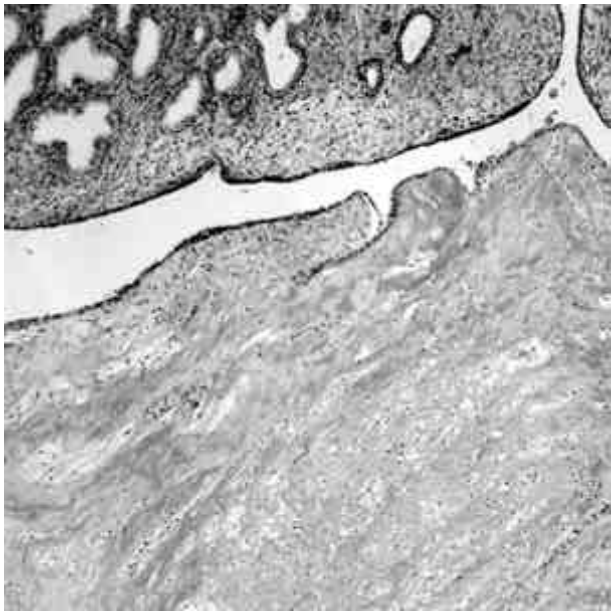

**Fig. 9.** The hypocellular and fibrotic stroma are found beneath the epithelium (H&E, ×200).

## DISCUSSION

We described a large, multilocular, cystic retrovesical neoplasm composed of glands and cysts lined by histologically benign, cuboidal or columnar epithelium and surrounded by a hypocellular stroma in males.

Our review of the literature disclosed nine similar cases. The multilocualr prostatic cystadenoma can occur in patients of various age but has been reported to range from 20 to 80 years. These patients had a retrovesical mass that varied in size (about 7.5×6.5×5 - 45×35× 13 cm) and that was anatomically separated from the prostate and contiguous structures or attached by a pedicle to the prostate (1-7).

The clinical presentation in all patients with multilocular prostatic cystadenoma included obstructive voiding symptoms with or without a palpable abdominal mass. In all reported cases, the diagnosis was made following surgical resection but the anatomical relationship of the mass to the native prostate varied. At operation, the tumors were well circumscribed and surrounded by a membraneous capsule.

Microscopic examination showed an appearance similar to that of our case. The histological finding in these cases demonstrated tumors composed of glands and cysts lined predominantly by cuboidal and columnar cells with pale cytoplasm and basally located nuclei. The scattered glands had a cribriform pattern and the epithelial cells were reportedly immunoreactive to PSA. There were no signs of cytological atypia or mitotic figures. None of the lesions displayed invasive to contiguous structures or malignant characters. After complete surgical excision, there were no reports of recurrences.

Retrovesical and retroperitoneal multilocular tumors that should be differentiated are diverse and include the phyllodes variant of atypical prostatic hyperplasia, mesenchymal neoplasms (benign or malignant) (7), multilocular peritoneal inclusion cysts (8), lymphangiomas (9), müllerian duct cysts, and seminal vesicle cysts (10). However, the nature of the cyst lining in these cases should be easy to distinguish from the prostatic-type epithelium lining the cysts in our cases. Also special staining for PSA is helpful in establishing the pathologic diagnosis. Serum PSA elevation or an abnormal digital rectal examination warrants prostatic biopsies; however, serum PSA and PAP will contribute little to the diagnosis of gaint multilocular prostatic cystadenoma. One would expect the PSA level of the cystic fluid to be exceedingly high.

Imaging studies provided useful information in determining both the extent of the lesion and its invasiveness. After appropriate history and physical examinations, an IVP, CT and MRI of the abdomen or pelvis provided a complete assessment for patients presenting obstructive uropathy and an abdominal mass that persists after bladder decompression.

More cases with prolonged follow up will be needed to reliably determine the clinical course, but clinical and morphological features encountered so far suggest that

they are benign.

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