

Case Report

Giant multilocular prostatic cysts treated by laparoscopic prostatectomy: a rare case report in China mainland

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Abstract: Middle-aged men presenting with symptoms of voiding dysfunction are often misdiagnosed with benign prostatic hyperplasia, urethral stenosis or neurogenic bladder. Here, we report a rare case of a 46-year-old man with a chief complaint of continually voiding dysfunction, diagnosed with giant multilocular prostatic cysts. Computed tomography (CT) scans showed multiple and large multilocular prostatic cysts in the pelvis. Serum levels of total and free prostate specific antigen were normal. Histological evidence of prostatic inflammation is presented in biopsy, including active hyperplasia and mild atypical hyperplasia of the prostate epithelial cells. Also, there were abundant neutrophil infiltrations in prostatic cyst fluid, however, without malignant cells. 25 days later, multilocular prostatic cysts were relapsed and Laparoscopic prostatectomy was performed. Histopathological examination indicated large multilocular retention cysts of prostate and intracystic hemorrhage. At 3 months follow-up, the patient was recovery and no prostate cyst recurred.

Keywords: Giant multilocular prostatic cysts, laparoscopic prostatectomy

Introduction

Prostatic cyst is always symptomatic and commonly found with small size by image examination, such as ultrasonography, CT scan and MRI. However, giant multilocular cysts of prostate in a mid-aged patient are rare and the experience of treating giant multilocular cysts of prostate is lack. Here we reviewed a rare case of large multilocular cysts of prostatic parenchyma and intracystic hemorrhage in our hospital and share our experience in the process of diagnosis and treatment strategy.

Case report

A 46-year-old man presented with a 3-month history of voiding dysfunction which occurred gradually and associated with urine retention. He was subjected to catheterization and Tamsulosin. His voiding was well after catheter removal. However, after several days later urine retention was relapsed and was admitted

into urology department with catheterization. Digital rectal examination revealed a grade III smooth prostate enlarged with central sulcus disappeared, fluctuation, high tension and obvious rectum oppression. The outcomes of tPSA and fPSA were respectively 1.18 ng/ml and 0.20 ng/ml. Urine routine showed the urine leucocyte is positive with 2 plus and red blood cell is 300/ul. Transrectal ultrasonography showed cystic change in pelvic cavity, urine retention with post-void residual (PVR) of 250 mL. Pelvic CT scan indicated there was a 10 cm*8 cm cystic mass with inner separation and smooth edge below the bladder and in front of the rectum, and pelvic lymph nodes in pelvic cavity (**Figure 1**). The prostate and left side seminal vesicle was unclearly displayed, and right side seminal vesicle and bladder was compressed. Prostate biopsy was performed and active gland epithelial hyperplasia and mild atypical hyperplasia of prostate was revealed. The patient also underwent transrectal ultrasound-guided aspiration and many neutrophils and no

A rare giant prostatic cysts



Figure 1. Pelvic CT scan of this patient. White arrows: prostatic cyst. Black arrows: bladder.

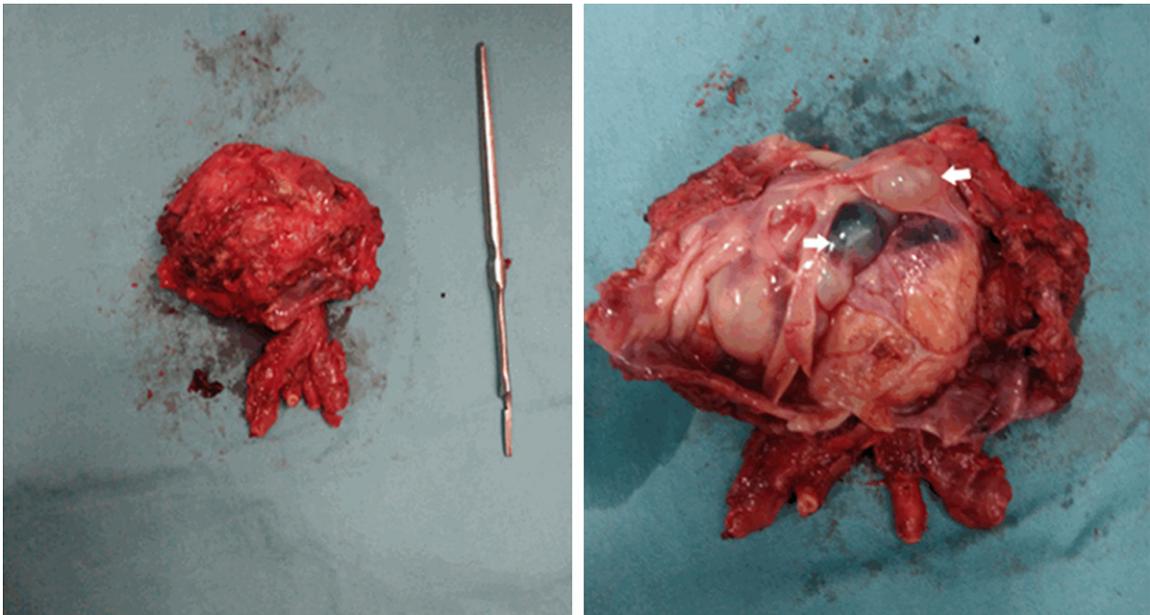


Figure 2. The resected prostate tissue and multilocular cysts. White arrows: prostatic cyst.

malignant tumor cells were found in the fluid from prostate cyst. Then the patient was discharged due to remission of symptoms, but 25 days later the cyst recurred. Pelvic CT scan indicated the cystic mass was 9.3 cm*8 cm. According to the suddenly voiding symptoms and short-term recurrence, the patient was diagnosed as large multilocular cysts of prostate. Informed consent was signed by the patient with approval from the ethics committee, the second Xiangya hospital, Central south University (Changsha, Hunan province, China). Subsequently, laparoscopic prostatectomy was performed (**Figure 2**). Histopathological examina-

tion indicated large multilocular retention cysts of prostate and intracystic hemorrhage (**Figure 3**). At 3 months follow-up, the patient was recovered with maximum flow rate 18 mL/s and PVR was insignificant. No prostate cyst has recurred.

Discussion

Here we reported a rare case of large multilocular cysts of prostatic parenchyma and intracystic hemorrhage in our hospital and share our experience in the process of diagnosis and treatment.

A rare giant prostatic cysts

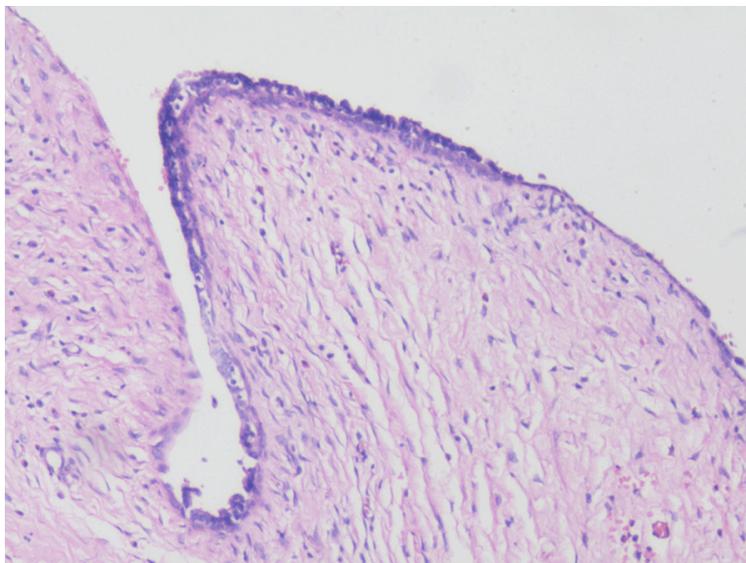


Figure 3. HE stain indicated large multilocular retention cysts of prostate ($\times 100$).

The generation of cysts may be associated with atrophy of the prostate gland, inflammatory disease, benign prostatic hyperplasia, ejaculatory duct obstruction and cancer. Cyst of prostate gland can be divided into congenital prostatic cysts and acquired prostatic cysts [1]. Congenital prostatic cysts include utricular, mullerian duct, ejaculatory duct, ampulla of vas deferens, seminal vesicle and congenital prostatic cysts. Acquired prostatic cysts include ejaculatory duct cyst, benign cystic hyperplasia, prostatic retention cyst, cystic carcinoma, prostatic abscess and parasitic cysts. Galosi et al. considered that cysts of the prostate gland can be classified into 6 categories: isolated medial cysts, cysts of the ejaculatory duct, simple or multiple cysts of the parenchyma, complicated infectious or hemorrhagic cysts, cystic tumors and cysts secondary to parasitic disease [2]. According to the above classification, our diagnosis is giant multilocular cysts of prostatic parenchyma and intracystic hemorrhage.

The diagnosis of prostatic cyst is based on medical history, symptoms, physical examination and assistant examination. The details of medical history are necessary to identify possible diseases. Because the clinical manifestation of this disease has no specificity, the severity of symptoms depends on the size and the location of the cyst. Patients with small cyst are asymptomatic or secondary to infection, calcu-

lus and obstruction. When the cyst grows rapidly into a certain degree, prostatic cyst can also cause urinary retention [3], bladder outlet obstruction [4], and lower urinary tract symptoms [5, 6]. In addition, Gualco et al. reported a case of clear cell adenocarcinoma of the prostatic utricle [7], suggesting that prostate cyst adenocarcinoma may be secondary to prostatic cyst. Our patient was a mid-age man with voiding dysfunction and recurrent urinary retention, resulting from urethra oppressed by cysts. Patients with recurrent urinary retention always can be misdiagnosed with benign prostatic hyperplasia, urethral stenosis or neuropathic bladder. The dia-

gnosis must be composed of physical examination, such as digital rectal examination, examination of testis, epididymis and penis, therefore, the prostatic cyst can be precisely differentiated from other diseases. Prostatic utricular cyst was always accompanied by hypospadias, cryptorchidism or pseudohermaphroditism in children. The enlargement of epididymis could be found in patients of ejaculatory duct or ampulla of vas deferens of cysts and unilateral epididymitis in seminal vesicle cysts. In addition, other image or endoscopic methods, such as pelvic ultrasonography, CT scan, MRI, cystoscopy or urography, can further clarify a diagnosis. In our case, transrectal ultrasonography and pelvic CT scan were performed and positive outcomes were found to provide clinical evidence for treatment strategy.

Prostatic cysts are generally asymptomatic and do not need medical attention. The symptomatic patients with prostatic cysts, the location of which was bilateral or median lobes of prostate, can firstly choose transurethral resection. Transrectal or transperineal ultrasound-guided aspiration also can be performed and sclerosing agent can be injected into cysts for epithelial cell losing secretion function. The main disadvantage of ultrasound-guided aspiration is easy to relapse. Yeung et al. reported laparoscopic surgery effectively treating prostatic cysts. Compared to the three surgical strate-

gies, we firstly chose transrectal ultrasound-guided aspiration and biopsy for treatment and exclusion of malignant tumor, but the cysts relapsed in a very short time. Laparoscopic prostatectomy was eventually performed and multilocular cysts of prostate were removed. During this operation, suture of dorsal deep vein complex was difficult due to large cysts and cyst fluid drainage was chosen for expanding the operation space. Postoperative histopathological examination indicated large multilocular retention cysts of prostate parenchyma and intracystic hemorrhage. At 3 months follow-up, the patient was recovery and no prostate cyst recurred.

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Disclosure of conflict of interest

None.

Abbreviations

CT, Computed tomography; MRI, Magnetic Resonance Imaging; PSA, Prostate Specific Antigen; PVR, Post-void Residual urine.

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