Case Report

Simple cyst of urinary bladder

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Abstract

Simple cysts are rare in the urinary bladder and can pose a diagnostic dilemma to both the urologist and the histopathologist. No case study was found in the database of Elsevier Science Direct, Spring-Link, or PubMed. We present two cases of subserous cyst in the bladder and discuss the diagnosis and treatment of the condition. The cystic lesion at bladder dome was detected by radiologic examination and confirmed by cystoscopy. In case 1, transurethral resection was first performed which was followed by partial cystectomy; In case 2, the cyst was removed with the urachus using laparoscopic surgery. The patients recovered uneventfully and the histopathology showed cysts in subserous layer of urinary bladder. The bladder cyst should be distinguished from urachal tumor, and laparoscopic partial cystectomy is the preferred operative procedure.

Key Words: Cyst, partial cystectomy, urinary bladder

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Received: 07.11.2012, **Accepted:** 10.02.2013

INTRODUCTION

Urinary bladder is a cystic formed organ that consists of stratum mucosum, lamina muscularis, and serous membrane. Most of the tumors in the urinary bladder are of epithelial origin and various cyst-like lesions can occur intra- or extravesically; very few of them are derived from the bladder wall. Here we present two cases of simple subserous cyst of bladder which were removed via partial cystectomy.

CASE REPORT

Case 1

A 55-year-old woman presented with a 4-month history of frequency, urgency, and vague abdominal pain in right lower quadrant. There was no hematuria, dysuria or fever.

Access this article online	
Quick Response Code:	Website: www.urologyannals.com
	DOI: 10.4103/0974-7796.134288

Abdominal and genital examination results were normal except for slight tenderness in right suprapubic region. Urinalysis result was normal. Urinary tract Doppler sonography revealed a thin-walled 3.7 cm × 3.1 cm × 2.7 cm cystic structure (a sharp interface towards the bladder cavity; absence of internal echoes and signal of blood flow) arising from the right side of the bladder, adjacent to the dome. Computerized tomography (CT) scan [Figure 1a] showed a local protrusion of the right anterior bladder wall and a faint septum-like structure in the right side of the urinary bladder lumen, which was detected by intravenous urography (IVU) as a filling defect outside the right ureteral orifice [Figure 1b]. There was no hydronephrosis or ureteral dilation.

Cystoscopy revealed an oval cystic lesion measuring 4 × 3 × 2.5 cm in the right side of the bladder dome, which had a smooth surface with the appearance of vesical mucosa [Figure 1c]. Transurethral resection was performed first to remove the tectum of the cyst. Some luculent and colorless fluid inside and a single septation were revealed [Figure 1d]. The intravesical part of the cyst wall was thicker than the contralateral wall, lacking of muscular tissue on macroscopic observation.

Given that a post-operative diverticulum *in situ* could develop, a partial cystectomy was immediately performed [Figure 1e]. Histopathology [Figure 1f] showed a cyst in subserous layer of urinary bladder. The cyst wall was composed of thin fibrous connective tissue and lined with flat monostratum/cubical epithelium in the inner side.

Case 2

A 43-year-old woman suffered from intermittent lower abdominal pain with slight urinary frequency and urgency for three years. Physical examination and urinalysis showed normal results. Ultrasonography revealed a cyst measuring 2.4 × 1.2 cm at the mid-anterior bladder wall. CT scan showed a small (1.8 cm in diameter) well-defined cystic mass with low density of 17HU and no enhancement at the dome of the bladder [Figure 2a]. Cystoscopy revealed a cyst-like mass with smooth surface at the anterior wall of the urinary bladder. The cyst measured 2.0 × 1.8 cm and decreased in size with the inflating of the bladder [Figure 2b]. Laparoscopic partial cystectomy was performed approximately 1 cm away from the outer margin of the lesion under cystoscopic guidance [Figure 2c]. Meanwhile the urachus was removed. Pathological examination [Figure 2d] revealed capsule-like tissue in bladder wall with chronic inflammation and uroepithelium proliferation.

The post-operative course of both patients was uneventful, and at 11 and 4 months respectively, the patients remain free of recurrence.

DISCUSSION

According to histological classification of urinary bladder tumors formulated by WHO in 1973, cysts in bladder are regarded as tumor-like lesions; however, only two types of cyst were identified. Urachal cysts are typically in the dome and anterior wall, whereas cloacal cysts are confined to the posterior wall. A lot of other cystic lesions such as dermoid cyst, müllerian duct cyst, seminal vesicale cyst, ureterocele and hydatid cyst are derived from the bladder wall exogenously or endogenously. These abnormalities, rare or not, always present the typical clinical feature, distinctive histopathological change and in characteristic predisposing areas. The cases in our report seemed to lack specific clinical manifestation, and the etiology was unclear. Although ultrasound can identify a cystic lesion,

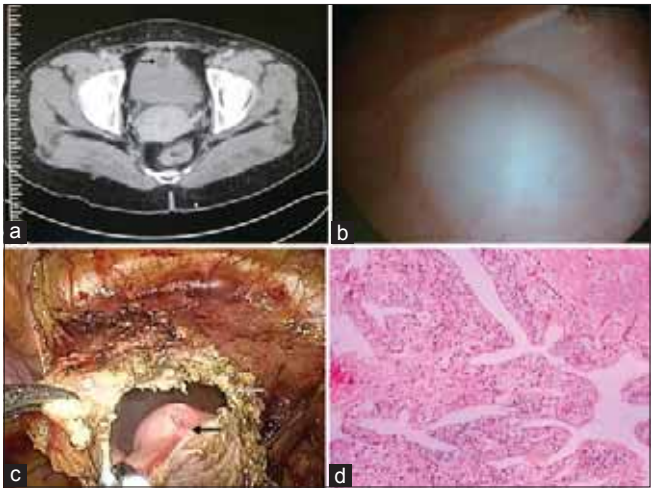

Figure 2: (a) Computerized tomography scan showed a small (1.8 cm in diameter) well-defined cystic mass with low density of 17HU and no enhancement at the dome of the bladder (b) Cystoscopy revealed a cyst-like mass with smooth surface at the anterior wall of the urinary bladder (c) Laparoscopic partial cystectomy was performed approximately 1 cm away from the outer margin of the lesion under cystoscopic guidance (d) Histopathological image of case 2

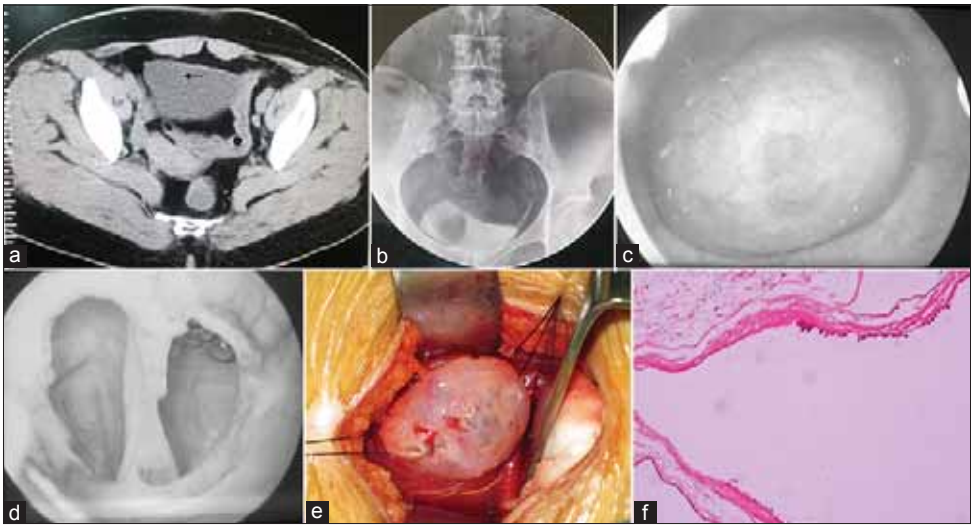

Figure 1: (a) Computerized tomography scan showed a local protrusion of the right anterior bladder wall (b) intravenous urography showed a filling defect outside the region of the right ureteral orifice (c) Cystoscopy showed an oval cystic lesion measuring 4×3×2.5cm in the right side of the bladder dome (d) Transurethral resection revealed a septation and the inner side of the cyst (e) A cyst revealed by partial cystectomy (f) Histopathological image of case 1

it is necessary to perform CT scan before surgery unless we have good experience in making differential diagnosis. The preoperative diagnosis was built by radiological examination. Usually bladder tumors may be recognized as pedunculated, radiolucent filling defects projecting into the lumen. In our cases, the CT scan showed cyst like lesion but not solid mass, this is the main evidence for ruling out a malignant disease. However, it was confirmed by cystoscopy. The post-operative histological examination showed a simple cyst of bladder wall, which was different from all the above-mentioned cystic lesions.

Elsevier Science Direct, Spring-Link and PubMed were searched using the key words of urinary bladder, vesicle, cystis, cyst (s), cystic lesion, hydatoncus and hygroma, but no similar case was found. So we presumed that bladder cyst or namely subserous cyst of urinary bladder should be identified as a special type of tumor-like lesion of bladder because of its unknown etiology. In our experience the bladder cyst is easy to be distinguished from other bladder cystic lesions except for some urachal abnormality. Diagnostic evaluation of suspected urachal disorders include intravenous pyelography, cystography, sinography, cystoscopy, US and CT.[1,2] A midline cystic lesion extending from the umbilicus to the dome of the bladder on US and CT is suggestive of urachal abnormalities. Nimmonrat A *et al*., thought that the urachal cyst appears echogenic on ultrasound (US) and enhancement on CT because of superimposed infection.[2]

In our opinion, for those without clinical manifestation and complication, watchful waiting is recommended because of the benign biologic behavior. If the surgical procedure is considered, partial cystectomy is better than transurethral resection of the cyst because the former prevents the formation of diverticulum or pseudo urinary cyst. Laparoscopic partial cystectomy (LPC) performed by the transperitoneal approach is a safe and effective method.[3] Generally the lesion is not readily apparent from laparoscopic views, and intraoperative cystoscopy can be used to identify the exact location of the cyst from outside the bladder.[4]

CONCLUSION

Subserous cyst of urinary bladder is rare and should be distinguished from urachal tumor. Laparoscopic partial cystectomy is the preferred operative procedure.

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How to cite this article: Bo Y. Simple cyst of urinary bladder. Urol Ann 2014;6:244-6.

Source of Support: Nil, **Conflict of Interest:** None.