Disfiguring Abdominal Mass Due to a Huge Extraordinary Calyceal Diverticulum

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INTRODUCTION

A calyceal diverticulum is a urine-containing congenital or acquired anatomical abnormality of the pyelocaliceal system lined with transitional cell epithelium. Urine fills this cystic area through a narrow forniceal channel or infundibulum.[1-3]

The etiology of pyelocaliceal diverticulum is believed to be congenital.[2,4] Calyceal diverticulum seen in the upper (70%), mid (12%), or lower (18%) calyx, arises frequently from the posterior aspect of the kidney and is usually unilateral. Although the typical calyceal cyst is smaller than 1 cm,[5] some larger ones are occasionally detected. Here, we report a huge extraordinary 18 × 16 cm calyceal diverticulum in a 19-year-old woman.

CASE REPORT

A 19-year-old woman with the chief complaint of left flank pain was referred to our clinic two months before admission. A left flank mass was detected during physical examination. Urine analysis and other laboratory data were within normal limits. Ultrasonography showed a huge cystic lesion in the left kidney. In diethylene triamine pentaacetic acid scan, a mild to moderate functional impairment of the left kidney as well as a photopenic zone above the left kidney were found. Computed tomography (CT) scan confirmed a 180 × 160 mm cystic lesion located in the superior part of the left kidney (Figure 1).

Magnetic resonance urography showed a suspicious connection to the upper calyceal system of the left kidney (Figure 2). The connection was confirmed by retrograde ureterography that was compatible with a huge left calyceal system diverticulum (Figure 3).

After placement of a ureteral catheter, we approached the left kidney through a left flank incision (Figure 4). By removing the thin

Figure 1. Computed tomography scan revealed a 180 × 160-mm cystic lesion located in the superior part of the left kidney.

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Figure 2. A suspicious connection to the left kidney's upper calyceal system in magnetic resonance urethrography.

upper part of the calyceal diverticulum wall, we injected methylene blue through ureteral catheter in order to identify the calyceal infundibulum, which was then incised and marsupialized to

Figure 3. A huge left calyceal system diverticulum was detected in retrograde ureterography.

Figure 4. Access through left flank incision.

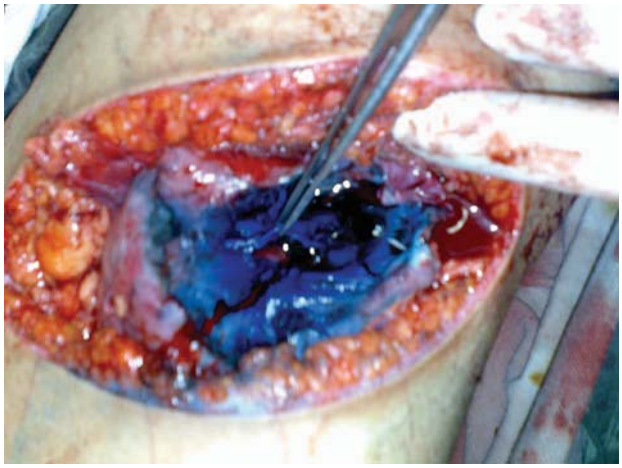

Figure 5. Incision and marsupialization of the calyceal wall.

the renal pelvis (Figure 5). After introducing a double-J ureteral stent and a nephrostomy tube, we closed the calyceal bed on itself in a water tight fashion. Nephrostomy tube and double-J stent were removed one and four weeks after the operation, respectively. Pathologic examination revealed calyceal diverticulum.

DISCUSSION

Pyelocalyceal diverticulum is an unusual disorder, in which a urine-filled cavity is connected to the renal calyx or the pelvis by a narrow or stenotic isthmus. It is lined with non-secretory transitional epithelium and is filled by urine via the adjacent collecting system.[1-3]

Most patients with pyelocalyceal diverticulum are asymptomatic and have been discovered

mostly accidentally on imaging modalities such as intravenous urography (IVU), renal ultrasonography, CT scan, magnetic resonance imaging, and retrograde pyelography.[6-8] Communicating renal cyst, renal cortical abscess, pseudodiverticulum, and tuberculosis are the differential diagnoses for pyelocaliceal diverticulum.[2,9,10]

The incidence rate of pyelocaliceal diverticulum is about 0.21% to 0.45%, based on accidental findings in IVU, and is similar in both children and adults.[2,4,11,12] Pyelocaliceal diverticulum can mimic malignant or infected cyst in ultrasonography; hence, IVU and contrast-enhanced CT scan are essential to confirm the diagnosis when ultrasonographic findings suggest the presence of renal cystic lesions. Calyceal diverticulums are usually less than 1 cm in diameter.[4] However, Hosomi and colleagues [13] and Hulbert and associates [14] reported a 3 × 3 cm and 7.5 cm calyceal diverticulum, respectively. To the best of our knowledge, we have not come across any report of a similar huge 16 × 18 cm calyceal diverticulum.

CONFLICT OF INTEREST

None declared.

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