Use of double J stent in a case of spontaneous ureteral extravasation of urine.

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**Summary.-** OBJECTIVES: Although there are numerous case reports of spontaneous rupture of the collecting system, especially including the calyceal fornix or the renal pelvis, spontaneous rupture of the ureter is a rare condition.

METHODS: Herein, we present a case of a patient who suffered symptoms of acute abdomen due to rupture of the proximal ureter. Extensive assessment revealed no etiological factor as to the extravasation.

RESULTS/CONCLUSIONS: The condition was managed conservatively by insertion of a double-J catheter. The double-J ureteral stent was removed on the first postoperative month under local anesthesia uneventfully. One year after the spontaneous ureteral extravasation, the patient remained without clinical problems. The diagnosis, pathogenesis and complications of this unusual condition are reviewed.

**Keywords:** Ureter. Spontaneous extravasation. Stenting.

**CASE REPORT**

A 48-year-old man consulted at the emergency department complaining of colicky pain at his right flank region and around the umbilicus. His pain had presented acutely, without any urological symptoms or nausea/vomiting. He had not reported any history of abdominal trauma. His vital signs were normal except body temperature of 38°C. On clinical examination, abdominal rebound sign was present in addition to periumbilical, right upper quadrant and suprapubic tenderness. His bowel sounds were diminished. The laboratory work-up displayed microscopic hematuria and leukocytosis. Renal functional tests were normal.
Ultrasonography showed mild pelvicaliceal dilatation and fluid collection (40-50cc) near the psoas muscle. An intravenous urogram demonstrated extravasation of contrast material from the lateral border of the right proximal ureter (Fig. 1). A CT scan showed a large urinoma in the peripelvic space (Fig. 2). A thorough radiological assessment of the patient by abdominal ultrasonography, computerized tomography, and intravenous urography did not reveal any factor relative to the etiology of the urinary extravasation such as calculi, tumoral mass, congenital anomaly or renal cyst. The temperature rapidly normalized following the administration of antibiotics. Retrograde pyelograms under general anesthesia confirmed the extravasation of urine from the right ureter 3 cm distal to the ureteropelvic junction. Furthermore, there were no filling defects implying calculi. A 4.8F double-J ureteral stent was easily placed in the right ureter.

On the first postoperative month, the patient had no complaints and his urine analysis revealed only microscopic hematuria. Excretory urography demonstrated a normal urinary tract and no sign of extravasation (Fig. 3). The double-J ureteral stent was removed on the first postoperative month under local anesthesia uneventfully.

One year after the spontaneous ureteral extravasation, the patient remained without clinical problems. Ultrasonographic examination revealed a normal urinary tract.

Fig. 1: Intravenous urography revealing ureteral extravasation.  
Fig. 2: Computerized tomography revealing ureteral extravasation.
USE OF DOUBLE J STENT IN A CASE OF SPONTANEOUS URETERAL EXTRAVASATION OF URINE

DISCUSSION

Although there are numerous case reports of spontaneous rupture of the collecting system in the literature, especially including the calyceal fornix or the renal pelvis, there are not many cases of spontaneous ureteral rupture published (1). Spontaneous extravasation of urine from the ureter is a rare condition caused by ureteral calculus in 50% of cases (2). Other less common causes of ureteral extravasation are lupus erythematosus (3) and ovarian tumor (4). Spontaneous perforation of the ureter is defined as a nontraumatic leakage from the ureter excluding trauma, ureteric instrumentation, recent operation and external compression during urography (1). Spontaneous rupture of the ureter is a very rare condition.

Spontaneous rupture in the collecting system usually ceases after conservative therapy or internal ureteral stenting. Moreover, ureteral ruptures over a short distance can heal after stenting and conservative treatment (1). Although spontaneous extravasation of urine is a relatively benign condition, it may cause perinephric abscess. Late complications such as ureteral stricture, ureteropelvic stenosis and periureteral fibrosis are debatable (2).

Our case and review of the literature suggest that observation and double-J stenting are appropriate approaches to spontaneous extravasation of urine providing that close follow-up is performed.

REFERENCES