Percutaneous Drainage of a Late-onset Giant Posttraumatic Urinoma

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INTRODUCTION

Urinoma or *pararenal pseudocyst* is defined as an encapsulated collection of extravasated urine in the perirenal space. Extravasation of urine into the perirenal fat triggers lipolysis and inflammatory reactions, which lead to formation of a fibrous sac around the collected urine.[1] Urinomas occur most commonly following trauma to the kidneys.[1] Although posttraumatic urine extravasation is common (2% to 18%), urinoma develops only in few cases.[2] Other major causes include obstructive uropathy (eg, posterior urethral valve and ureteropelvic junction obstruction), iatrogenesis in endosurgical procedures, and rarely, pregnancy.[3-5] We report a young man with a giant urinoma following falling which had caused left-flank blunt trauma 1 month earlier. Treatment with percutaneous drainage was done successfully.

CASE REPORT

A 25-year-old man was referred to our hospital due to a large abdominal mass, with a history of a blunt trauma to his left flank in a falling injury 1 month earlier. Computed tomography revealed injury to the left kidney that had caused parenchymal laceration extending through the renal cortex, medulla, and collecting system, with trivial contrast medium extravasation and perirenal hematoma (Organ

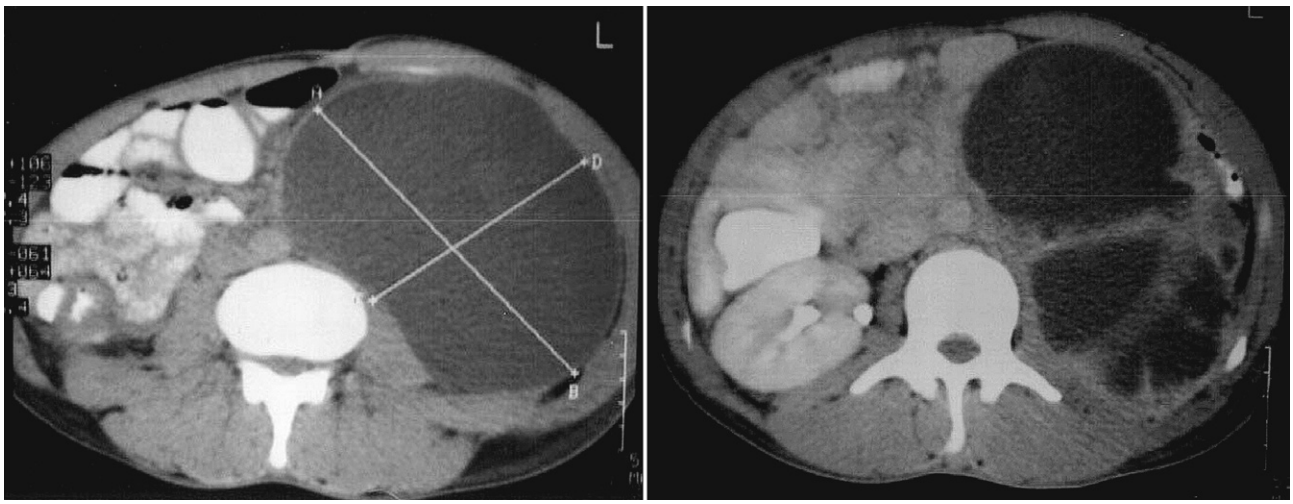

Figure 1. Left, Transverse computed tomography scan of a large left cystic mass (giant urinoma). **Right,** Giant urinoma in the left is seen with multiple septa.

Injury Scale grade 4). On the 1st day of admission, he had mild hematuria which gradually subsided to microscopic hematuria without the need for blood transfusion. During the hospital stay, his vital signs were stable, and he was treated conservatively. Ultrasonography on day 7 revealed no sign of perirenal extravasation or hematoma, and the patient was discharged.

On the 2nd admission, 1 month after the 1st admission, he had a large mass in the left side of his abdomen. He had no significant symptoms, except for filling a little heaviness and vague discomfort in his left side of the abdomen. Abdominal ultrasonography and computed tomography revealed an 11 × 9-cm cyst with multiple septa (Figure 1) without any contrast medium extravasation in the perirenal area or in the cystic mass. The left kidney was located in the lower limit position (Figure 2), and had signs of parenchymal fracture in one of slides (Figure 3).

Figure 2. Intravenous urography shows the left kidney in a lower position than the right kidney because of the left urinoma (arrow).

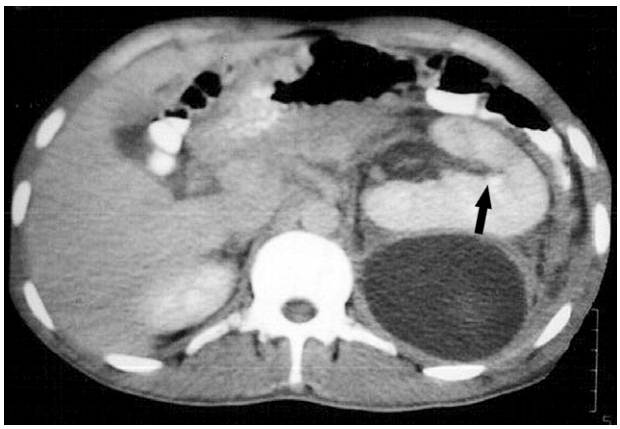

Figure 3. Left kidney paranchymal laceration (arrow) on computed tomography scan.

TECHNIQUE

By the guide of ultrasonography, an 18-gauge needle was advanced into the urinoma and about 3500 mL of clear urine was aspirated. Then the tract was dilated over a guide wire to 12 F in size, and a 10-F pigtail catheter was inserted and left for continuous drainage for 3 days.

RESULTS

About 30 days after the blunt trauma to the left flank, a large urinoma had been gradually formed, which was documented by computed tomography as a lubolated cystic mass with parenchymal renal laceration (grade 4). Following percutaneous aspiration of about 3.5 L of clear urine, the patient was discharged on day 4 of the 2nd admission. At discharge, ultrasonography showed no sign of extravasation or hematoma in the left perirenal space. On the follow-up visits after 2 weeks and 1 month, no abnormalities or symptoms were reported.

DISCUSSION

Urine extravasation is a common finding in grades 4 and 5 kidney injuries with an expectation of resolution in 87.1% of patients.[6] However, if it persists and causes urinoma, drainage is recommended for prevention of serious complications, such as abscess formation and sepsis. Drainage is a reasonable first-step treatment before any corrective interventions. Among drainage modalities, percutaneous drainage is recommended when the patients are hemodynamically stable and

their urinomas are fixed. Hence, this method will be an effective and safe therapy for these patients and will help to relieve symptoms. Nonetheless, there has been little information in the literature to date on the late-onset urinoma following trauma to the kidneys. Usually, the delayed formed urinomas, according to Unal and colleagues, are more complicated and often need operative drainage.[7] However in our case, we did not find any significant complication or hemodynamical instability. Therefore, we managed it by percutaneous catheter drainage.

CONFLICT OF INTEREST

None declared.

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