中文題目：輸尿管結石引起之腎臟包膜下尿液囊腫及急性腎損傷

英文題目：Renal subcapsular urinoma formation and acute kidney injury caused by obstructive ureteral stone

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Back ground:

Urinoma is an uncommon disease, caused by the extravasation of urine from any constituent of the urinary tract. The causes of urinomas may be divided into either obstructive or non-obstructive caused by trauma mainly.

Case presentation:

A 68-year-old man with hypertension, diabetes mellitus and chronic kidney disease visited our ER due to fever. Chronic kidney disease with acute exacerbation was also noted since his baseline serum creatinine level was 2.6 mg/dL and was increased to 5.1 mg/dL at presentation. He was in good blood pressure and diabetic control, and he denied recent analgesic or herb use. His previous renal sonography revealedbilateral renal cysts and some hyperechoic spots favored small angiomyolipimas. Other laboratory studies showed leukocytosis with neutrophil predominant, but urine routine showed no pyuria or hematuria.

His renal function was improved partially as his [Cr] decreased to 4.0mg/dL after antibiotics treatment and adequate hydration. However, gross hematuria was noted twice during hospitalization. Urine cytology in 3 sets showed no evidence of malignancy. The following abdominal CT scan accidently revealed a large right side kidney sub-capsular fluid accumulation which was not presented in previous sonography study. In addition, right ureteral stones with obstructive uropathy was also evident. Echo-guided sub-capsular fluid aspiration was arranged and its laboratory examination revealed: WBC: 836/ μL, Polynuclear cell: 88%, Creatinine: 117.7 mg/dL, BUN: 641mg/dL, Hct: 0.5%. Thus, ureteral stone with obstructive uropathy causing rupture of the pelvic system and the urinoma formation was confirmed.

Finally, ureterorenoscopy and double-J catheter placement were arranged. His renal function returned 2.8 mg/dL 3 days later, just as his baseline renal function.

Conclusion:

Urinomas forming due to obstruction from ureteral calculi are very rare. Most patients complain of fever, nausea, vomiting, flank pain, ileus, and pain in the abdomen. The initial evaluation includes renal ultrasonography, followed by an abdomen and pelvis CT without contrast. The initial management is conservative. If the size of the urinoma does not decrease after several days, a percutaneous catheter under CT or ultrasound can be placed. Fluid analysis shows a significantly higher creatinine level and a lower glucose concentration relative to the serum. Urinomas may lead to complications such as abscess formation and electrolyte imbalances. The practicing clinician should have a high index of suspicion for this rare but serious entity to be able to promptly diagnose and manage this condition.