

BİR MİLİMETRİK ÜRETER ALT UÇ TAŞINA BAĞLI HIZLI GELİŞEN SPONTAN RENAL PELVİS RÜPTÜRÜ

Fast Developing Spontaneous Renal Pelvis Rupture Due to One Millimeter Sized Distal Ureter Stone

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ÖZET

Renal pelvis ve üreterin spontan rüptürü nadir görülen bir durumdur. Vakamız daha önce ürolojik operasyon ve taş öyküsü olmayan 63 yaşında sağlıklı bir erkek hasta idi. Ani başlayan sağ yan ağrısı sonrası çekilen kontrastsız bilgisayarlı tomografide (BT) sağ üreter alt uçta 1 milimetrelik (mm) taş ve renal pelvis düzeyinde grade 1 hidronefroz tespit edilen hastanın 24 saat içinde ağrılarının ani artması ve akut batın muayene bulguları gelişmesi nedeniyle hastaya Kontrastlı BT çekildi ve üreter alt uçta izlenen 1 mm lik taşa sekonder gelişen spontan renal pelvis rüptürü tanısı konuldu. Hastaya retrograt üreteral stent yerleştirildi. Hasta tedaviye dramatik yanıt verdi. Olgu eşliğinde tanı ve tedavi yaklaşımları tartışıldı.

Anahtar Kelimeler: *Bir milimetre; Spontan pelvis rüptürü; Üreter taşı*

ABSTRACT

Spontaneous renal pelvis and ureter rupture is rare. In our study we reported a 63-year-old male patient who had no previous history of urological operation and urinary system stone.

He had right flank pain. In the non-contrast computerized tomography(CT) one millimeter(mm) stone was detected in the right distal ureter. Grade 1 hydronephrosis was present in the right renal pelvis. 24 hours later, patient had increasing pain and acute abdominal pain. Contrast enhanced CT was performed and spontaneous renal pelvis rupture secondary to 1 mm distal ureter stone was detected. Retrograde ureteral double J stent was inserted into the right ureter. The patient responded dramatically to this intervention.

Spontaneous ureter rupture may occur with acute abdominal pain symptoms. After making differential diagnosis, dramatical responses are available with immediate minimal invasive treatment methods

Keywords: *One millimeter; Spontaneous pelvis rupture; Ureter stone*

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INTRODUCTION

Idiopathic spontaneous renal pelvis and ureter rupture is a rare seen morbidity. Kidney stone is the most common reason of pelvis and ureter rupture in non-traumatic group.(1) The spontaneous rupture of renal parenchyma or renal collecting system is seen in diseased kidneys. (2) The diagnosis of spontaneous renal pelvis rupture is difficult due to insidious occurrence, lack of blood loss and urinary symptoms. (3) In our study, we reported a 63-year-old male patient. He did not have previous history of urological operation and urinary system stone. One millimeter(mm) right distal ureter stone was detected and after 24 hours spontaneous renal pelvis rupture developed and retrograde double J(DJ) stent was inserted. The patient dramatically responded to this intervention.

CASE PRESENTATION

63-year-old male patient was admitted emergency clinic with suddenly starting right flank pain. In non-contrast computerized tomography(CT) 1 mm stone was detected in right ureterovesical junction. Analgesic and α -blocker therapy were started as medical expulsive treatment.(Figure 1) Patient attended again to the emergency clinic because of increasing pain. In the physical examination, severe defense, abdominal sensitivity and costovertebral angle sensitivity were present in the right region of the abdomen. Blood pressure was 130/80 mmHg, heart rate was 90/

minute(min), respiration rate was 22/min, fever was 37.1 °C. In the laboratory tests, creatinine was 1.42 mg/dl, White blood cell(WBC) was 13.32 mm³. In the urinalysis WBC and red blood cell(RBC) were not detected. Liquid collection with 15 mm sized thickness was seen adjacent to right kidney renal pelvis and lower calyx in ultrasonography(US). Contrast enhanced CT and kidney ureter bladder graphy(KUBG) were done. Contrast extravasation was detected around right renal pelvis and mid ureter.(Figure 2) Operation was planned.

In the cystoscopy right ureter orifice was narrow. Guidewire was sent into the right ureter. Semirigid ureterorenoscope was inserted over the guidewire. 1 mm stone was seen in right ureterovesical junction. Stone was taken to the bladder. Retrograde pyelography (RGP) was performed. Contrast extravasation starting around right renal pelvis and reaching around proximal ureter was seen. Double J stent was inserted. Urinary catheter was inserted to prevent reflux. At postoperative first day, extravasation was seen around ureter in KUBG.(Figure 3) Extravasation was lost in KUBG at postoperative third day.(Figure 4) His complaints decreased and laboratory tests were normal ongoing follow-up. Double J stent was taken eight weeks later and RGP was performed. Ureteropelvic junction system was normal.

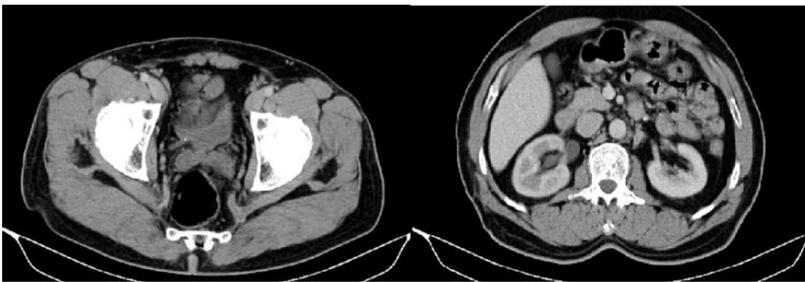


Figure 1. Renal Pelvis Rupture in CT

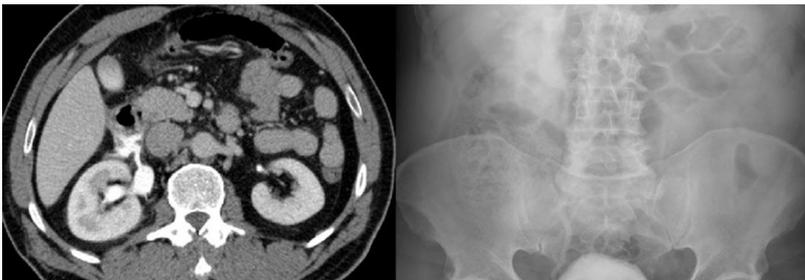


Figure 2. Contrast Extravasation in CT and KUBG



Figure 3. KUBG in Postoperative First Day

DISCUSSION

Urinary extravasation occurs due to urinary leakage in the urinary system from calyx to the urethra. If extravasation is not due to traumatic, iatrogenic manipulation, degenerative kidney disease or previous surgery, it is defined as spontaneous. (1) The most common reason of spontaneous ureter rupture is obstruction due to a stone. The other rare reasons are tumor, retroperitoneal fibrosis, pregnancy, connective tissue disorder and acute urinary retention. (4) Although, rare spontaneous rupture due to ureter stone were reported in several cases, in our case spontaneous ureter rupture was quickly developed due to 1 mm ureter stone. In the literature, spontaneous rupture was occurred at the ureteropelvic junction which was the weakest part of the ureter. (1-7) In our case, rupture was near to the ureteropelvic junction similar to the literature. Due to lack of blood loss and severe pain, diagnosis of spontaneous ureter rupture is usually difficult like renal parenchyma rupture. The reasons for acute abdominal pain should be considered in differential diagnosis. (3) Retrograde double J stenting is the most common treatment method for spontaneous ureter rupture in the literature. (3,4,6,7) Also, percutaneous nephrostomy and antegrade double J stenting and open surgery are treatment methods for spontaneous ureter rupture. (1,2) There are also studies reporting conservative management. (2,3,5-7) In our case, 1 mm stone preventing urinary passage was extracted and retrograde double J stent

was inserted. The patient dramatically responded to this treatment.

Spontaneous ureter rupture may occur with acute abdominal pain symptoms. After making differential diagnosis, dramatic responses are available with immediate minimal invasive treatment methods. In case of stones obstructing urinary passage, retrograde double J stenting as a minimal invasive method is an efficient and safe treatment method. In our study, unlike the literature spontaneous rupture was due to 1 mm ureter stone and quickly developed within 24 hours. And images before and after perforation were present first time in the literature in our study.

REFERENCES

1. Pampana E, Altobelli S, Morini M, Ricci A, D'Onofrio S, Simonetti G. Spontaneous ureteral rupture diagnosis and treatment. *Case Rep Radiol.* 2013;2013:851859.(1-4)
2. Huri E, Ayyildiz A, Nuhoğlu B, Germiyanoğlu C. Spontaneous rupture and emergency repairment of the renal pelvis. *Int Urol Nephrol.* 2007;39(2):413-5.
3. Ashebu SD, Elshebiny YH, Dahniya MH. Spontaneous rupture of the renal pelvis. *Australas Radiol.* 2000;44(1):125-7.
4. Pace K, Spiteri K, German K. Spontaneous proximal ureteric rupture secondary to ureterolithiasis. *J Surg Case Rep.* 2017 9;2016(11). (1-3)
5. Díaz ES, Buenrostro FG. Renal pelvis spontaneous rupture secondary to ureteral lithiasis. Case report and bibliographic review. *Arch Esp Urol* 2011;64(7):640-2.
6. Zhang H, Zhuang G, Sun D, Deng T, Zhang J. Spontaneous rupture of the renal pelvis caused by upper urinary tract obstruction: A case report and review of the literature. *Medicine* 2017;96(50).
7. Akpınar H, Kural AR, Tüfek I, Obek C, Demirkesen O, Solok V et al. Spontaneous ureteral rupture: is immediate surgical intervention always necessary? Presentation of four cases and review of the literature. *J Endourol.* 2002;16(3):179-83.