Spontan Renal Pelvis Rüptürünün Konservatif Tedavisi: Olgu Sunumu

Conservative Management of Spontaneous Renal Pelvis Rupture: Case Report

Olgu Sunumu

Başvuru: 30.10.2013
Kabul: 10.01.2014
Yayın: 27.01.2014

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Özet


Abstract

Spontaneous rupture of the renal pelvis is very rare and unusual occurrence so it causes delays in the diagnosis of the rupture. The diagnosis of the rupture is best evaluated by computer tomography. The treatment of the rupture is primarily removed underlying causes and afterwards performed conservative management. In this article, we present a woman, aged 51, with renal pelvis rupture due to left lower ureter stone. The differential diagnosis of this case is discussed and the literature is reviewed.

Anahtar kelimeler: Böbrek, Pelvis Rüptür Konservatif tedavi

Keywords: Renal, Pelvis Rupture Conservative management

Introduction

Although renal pelvis rupture without an underlying cause has been issued before [1], usually perforation occurs due to obstructive uropathy or ureteral pressure elevation [2]. Often pathologies as hydronephrosis, obstruction due to stone, tumor and urinary infection accompanies to the disease [3]. Clinic of the disease is non-specific, usually difficult to distinguish from a sample renal colic and delayed diagnosis of many cases [4]. We must suspect the rupture in case of changing in degree and shape of the symptoms. Progression of the disease is depend on underlying another disease, degree of the renal damage, localization of the rupture and presence infection [1].

Case Report

A 51-year-old woman present with left flank pain. She had been suffered from this complaint for a month. It was learnt that she applied to another urology clinic for the same complaint a mount ago, ultrasonic examination was performed in that clinic, the result was reported as presence of dilatation in left renal pelvis. However the patient had got out of follow-up during this period. On physical examination, the only finding left costovertebral angle tenderness. Direct urinary system x-ray was normal. Urinary analysis was associated with urinary tract infection. White blood cells in serum were 11760. Sonography showed middle degree dilatation in calyces and pelvis of left renal and prominent fluid in around of left renal, but there was not any stone. Tomography demonstrated the localization of rupture of the left renal pelvis and milimetric stone in the left lower ureter (Figure 1).
It was showed that the perinephric fluid collection was spread on the retroperitoneal area (Figure 2).

The right kidney was normal. Emergency ureterorenoscopy was performed. The stone was broken with pneumatic lithotripsy and then removed with a basket catheter (Figure 3).

Finally a double-j stent (6 F) was inserted. After the operation, the patient was so normal according to the
preoperative period, a medical treatment was performed as an antibiotherapy. There was not any problem about her operation, and improvement was rapid. Control tomography was normal after 15 days. The double j stent was removed after 1 month. The control sonography was normal after 3 months.

Discussion

Spontaneous renal pelvis rupture is usually related with obstruction of urinary tract due to urolitiasis. It is a rare condition that causes urine extravasation into retroperitoneum \(^\text{[2,5,6]}\). Rupture may occur due to other pathologies, such as: posterior urethral valves \(^\text{[7]}\), uretero-pelvic malformations with vesicoureteral reflux \(^\text{[8]}\), diverticula of renal calyces \(^\text{[9]}\), malignancies \(^\text{[10-12]}\), retroperitoneal fibrosis \(^\text{[13]}\) and neuropathic bladder \(^\text{[6,8]}\). Hydronephrosis is the most common underlying cause spontaneous rupture of the renal pelvis, especially, when the renal pelvis is immobile or fixed because of adhesions \(^\text{[14,15]}\). A sudden increase in intrapelvic pressure may result in spontaneous extravasation of urine through the calyceal fornices. This extravasation is seen in excretory urography performed with external compression and resolves spontaneously \(^\text{[16]}\). It is unlike an actual renal pelvis rupture. It is seen directly urine extravasation from pelvis to retroperitoneal area in actual rupture \(^\text{[3]}\). Infection may also attribute the renal pelvic rupture. Urinary tract infection was determined by urinary analyses in our case.

In rupture of the renal pelvis, lack of blood loss and lack of urinary symptoms are frequently reported \(^\text{[14]}\). Rupture of the renal parenchyma presents as an acute abdominal emergency with pain and signs of massive blood loss \(^\text{[4]}\). Gastrointestinal symptoms, like nausea, vomiting, were not seen in our patient but it is recorded that gastrointestinal symptoms may prevent and delay the right diagnosis. For this reason, the correct pre-operative diagnosis may be difficult and complicated \(^\text{[3]}\). Differential diagnosis has to she considered primarily. Renal pelvic rupture on the right side can mimic cholecystitis, hepatitis, appendicitis, pyelonephritis and urinary stone disease. On the left side, diverticulitis and urinary stone disease are reported by physician \(^\text{[14]}\). The clinical prognosis of flank pain relating to degree of the pelvic rupture, so unremitting pain associated with acute abdomen may be present, was observed in our patient. The pain is due to extravasated urine causing infective or chemical peritonitis \(^\text{[14]}\).

Sonography, direct urinary x-ray, excretory urography and computed tomography are useful investigations for diagnosis of the renal pelvic rupture \(^\text{[17]}\). Rupture may be diagnosed confidently by sonography with no need for other investigation \(^\text{[18]}\). In our case, sonography was observed dilatation of the renal pelvis and fluid around pelvis, ureter and kidney in left side. Computed tomography does not confirm only contrast extravasation, but may also show the site of rupture as in the present case. Therefore, CT is more useful according to the other investigations, such as sonography, excretory urography, and plain abdominal radiographs \(^\text{[4]}\).

Management of spontaneous renal pelvis rupture must be essentially removed obstruction to prevent extravasation. Ureterorenoscopy is thought as first option among surgical treatments because of high success rates and minimal morbidity in the ruptures association with ureteral stone \(^\text{[19-22]}\) in like the present case. Conservative management with ureteral stent is a quite successful approach in repairment of the rupture after removal of obstruction \(^\text{[23]}\). We provided that repairment of the rupture as a double j stent was inserted after the stone was removed during the ureteroscopy. Open surgery has been also reported in renal pelvis rupture \(^\text{[24]}\).

Consequently, either conservative approach to the spontaneous renal pelvic rupture or surgical repairment are effective treatment methods, but unfortunately, there is no long-term study about this subject yet.

References

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