

Bilateral Laparoscopic Anatomic Nephrolithotomy for Managing Staghorn Renal Calculi

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Keywords: calculi, laparoscopy, nephrolithotomy, pyelography

Urol J. 2010;7:133-5.
www.uj.unrc.ir

INTRODUCTION

In the current age of minimally invasive therapy, it is reasonable to offer open nephrolithotomy as the first line treatment for patients with complete staghorn renal calculi and/or infundibular stenosis.⁽¹⁾

The role of laparoscopic surgery as a minimally invasive method to manage staghorn renal calculi was formerly discussed only in limited articles.⁽²⁻⁴⁾ In this case, we performed bilateral Laparoscopic anatomic nephrolithotomy (LAN) for managing bilateral staghorn renal calculi in two separate sessions.

CASE REPORT

The patient was a 52-year-old man who presented to the urology clinic with abdominal pain.

Ultrasonography revealed a large renal stone measuring 52 mm and mild hydronephrosis in the right side as well as a 56-mm stone with focal stasis in the left side. Intravenous pyelography confirmed bilateral radiolucent staghorn renal calculi with mild stasis in both kidneys.

The patient underwent right LAN, which was performed transperitoneally via 4 ports in the right flank position. After superior retraction of the spleen and the liver, and medial mobilization of the colon, the renal pedicle was exposed. Only the renal artery was clamped using a bulldog clamp. A nephrotomy incision was made on the Brodel line (Figure 1). Then, the stone was extracted from the

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Received February 2009
Accepted October 2009

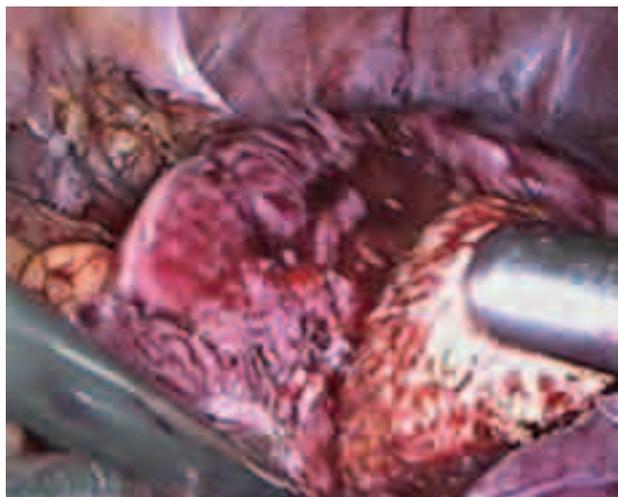


Figure 1. Stone was removed from nephrotomy incision on Brodel line.

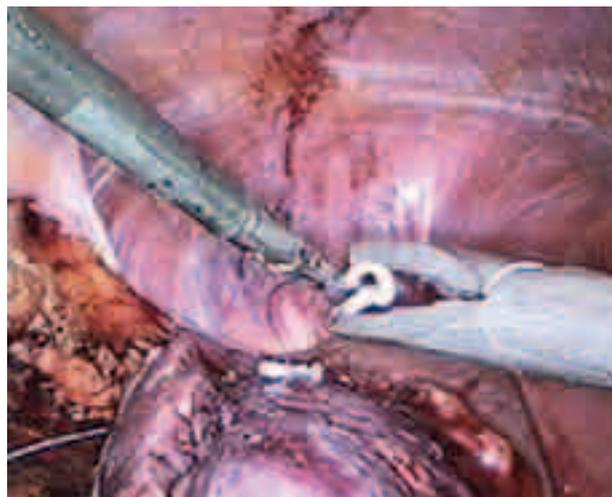


Figure 2. Sutures were buttressed by hemostatic clip instead of knots.

abdominal cavity using a surgical glove as an endo-bag. Later, the incision was closed using 0 vicryle continuous sutures and sutures were buttressed by hemostatic clip instead of knots (Figure 2). A ureteral stent was not inserted. The patient underwent left LAN 6 months later with similar technique.

During the right LAN, blood loss was 235 ml; warm ischemia time was 26 minutes and operative time was 165 minutes. Pre and postoperative serum creatinine were 1.9 and 1.85 mg/dL, respectively. Hospital stay was 6 days and this period was uneventful. Postoperative ultrasonography showed no residual stone. Intravenous pyelography was performed 3 months after the operation and showed proper excretion of the right kidney (Figure 3).

No blood transfusion was needed in the left LAN. Warm ischemia time was 28 minutes and operative time was 180 minutes. Pre and postoperative serum creatinine were 1.62 and 1.75 mg/dL, respectively. Hospital stay was 6



Figure 3. Intravenous pyelography 3 months after the first operation: proper excretion of the right kidney without residual stones.



Figure 4. Computed tomography 6 weeks after the second operation: no stone was seen in both of the kidneys.

days and because of drain leakage, a ureteral stent was inserted. Thereafter, leakage was stopped the day after stent insertion. Computed tomography performed 6 weeks later, revealed no residual stones (Figure 4).

DISCUSSION

At present, there is no clear threshold to define whether a staghorn stone is amenable to open stone surgery or to a minimally invasive technique; and the surgeon's judgment, experience, and instrument availability are the most important factors in this regard.⁽⁵⁾ In spite of great advance in endoscopic procedures, in specific circumstances such as large stone volume, complexity of stone, and anatomical abnormality, the staghorn renal calculi need to be managed with open stone surgery. Open anatomic nephrolithotomy provides a 91% to 94% stone-free rate⁽⁶⁾ and may be a cost-effective alternative to multiple endourological treatment sessions, but it is associated with some postoperative morbidities and prolonged recovery;⁽⁴⁾ thus, laparoscopy has gained increasing importance for managing staghorn renal calculi. Meria and colleagues concluded that laparoscopic pyelolithotomy could be considered as an alternative to percutaneous nephrolithotomy for large pelvic stones⁽⁷⁾ and Deger and associates reported the first use of LAN for a staghorn stone in adult patients.⁽⁸⁾ In 2008, Simforoosh and

coworkers reported 5 patients who underwent ipsilateral LAN with acceptable stone-free rate and low morbidity.⁽²⁾ By presenting this case, we cannot recommend laparoscopy as the method of choice for staghorn renal calculi, due to our small sample size, but with further investigations, LAN may be considered as a suitable alternative to open stone surgery to manage staghorn renal calculi in the future.

CONFLICT OF INTEREST

None declared.

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External Genitalia Entrapment A Case Report

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Keywords: male genitalia, ischemia, wounds and injuries

Urol J. 2010;7:136-7.
www.uj.unrc.ir

INTRODUCTION

External genitalia entrapment (EGE) is a rare clinical entity requiring urgent and efficient management.⁽¹⁾ If left untreated, it may result especially in vascular compromise to the external genitalia soft tissue structures.⁽²⁾ Management poses unique challenges to the treating physician through variable presentation as well as the lack of specifically designed treatment options.

CASE REPORT

The fire brigade brought a 45-year-old schizophrenic man to the Emergency Department with a 5-hour history of EGE in a thick nonexpandable silver ring. He was anxious and in a considerable pain. The glans and the penis shaft had

been cyanosed and enlarged with an obvious swelling of the scrotum and foreskin (Figure 1).

In fact, the patient suffered from a behavioral disorder and in his past medical history, we noted a traumatic colic perforation by a foreign body. This time, the entry had begun with one testis followed by the other one and finished with the penis. The patient had used oil to facilitate the maneuver. On physical examination, he complained of numbness of the glans and the penile dorsal artery pulse was barely perceptible. He had voiding difficulties, but was not in acute urinary retention. Under neuroleptic analgesia, a malleable retractor was negotiated under the ring to safeguard the underlying skin (Figure 2) and the ring was

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Received March 2009
Accepted July 2009



Figure 1. Cyanosed and enlarged glans with an obvious swelling of the scrotum and foreskin.



Figure 2. Malleable retractor negotiated under the ring to safeguard the underlying skin.

cut in 2 places with a diamond-tipped oscillating splint saw. The whole procedure took about 1 hour. After removing the ring, the circulation and the skin color were quickly restored to the external genitalia, which were undamaged. There was an unremarkable change on scrotal ultrasonography. The swelling gradually subsided and the patient was capable of urinating. On the follow-up of 2 and 6 months, the uroflowmetry showed a maximum flow rate around 25 mL/s and the scrotal ultrasonography demonstrated a normal vascularization and trophicity of the testicular parenchyma.

DISCUSSION

A strangulation metal ring is occasionally encountered in urologic emergencies.^(3,4) External genitalia entrapment is rarer than penile entrapment, but is a more serious emergency condition, which can lead to infarction.⁽⁵⁻⁸⁾ Various nonmetallic and metallic constricting objects, including bottles, rings, hairs, threads, steel nuts, rubber bands, etc^(3,4,9,10) are placed on the external genitalia to increase sexual performance or because of autoerotic intentions.^(4,6) In the worldwide literature, penile entrapment has been reported,⁽³⁻¹⁴⁾ but to our best knowledge, this is the first report of external genitalia entrapment. The main objective in this situation is decompression to facilitate free blood flow and micturition.^(4,6) Metallic rings rarely cause severe mechanical injuries, but they can lead to severe vascular complications.⁽⁴⁾ Various procedures have been proposed, including the common metal ring cutter, cutting tang, metal saw, Dremel Moto-Tool Kit, Anspach cement eater, high-speed dental drill, string method, and wrapping by package cord.^(3-5,8-10,13-15) Removal of strangulating constricting devices requires resourcefulness to perform the removal simply and effectively, and with as little discomfort for the patient as possible. In some cases, a little premedication is helpful; however, only very few patients require general anesthesia.⁽⁴⁾

CONFLICT OF INTEREST

None declared.

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