การผ่าตัด laparoscopic simple nephrectomy
ในผู้ป่วย pelvic ectopic kidney

บรรณานุกรม เรือนโรจน์กร กลุ่มงานศัลยกรรม โรงพยาบาลนครพิงค์ เชียงใหม่

บทคัดย่อ
วัตถุประสงค์: การผ่าตัด laparoscopic nephrectomy ในผู้ป่วย ectopic kidney เป็นการผ่าตัดที่ไม่พบบ่อยเนื่องจากขั้นตอนการผ่าตัดมีความซับซ้อน ผู้นิพนธ์รายงานประสบการณ์การผ่าตัดนี้ ในโรงพยาบาลทั่วไป ซึ่งไม่ใช้โรงเรียนแพทย์

ผู้ป่วยและวิธีการศึกษา: ผู้ป่วยชาย อายุ 47 ปี มีอาการปวดท้องน้อยและปัสสาวะขัด ผลตรวจทางรังสีวิทยาแสดงนิวในอุ้งเชิงกราน และมีการทำงานผิดปกติ โดยพบเส้นเลือด 2 เส้น บริเวณขั้วส่วนบนและล่างของไต ผู้ป่วยได้รับการผ่าตัด transperitoneal laparoscopic nephrectomy เมื่อเดือนเมษายน พ.ศ. 2554

ผลการศึกษา: การผ่าตัดใช้เวลาดมยาสลบ 240 นาที เวลาผ่าตัด laparoscopic 160 นาที โดยใช้ trocars ขนาด 10 มิลลิเมตร 3 ชิ้น ผลการผ่าตัด ไม่มีผลแทรกซ้อน และผู้ป่วยกลับบ้านได้ในวันที่ 5 หลังการผ่าตัด

สรุป: การผ่าตัด laparoscopic simple nephrectomy ในผู้ป่วย pelvic ectopic kidney มีความปลอดภัยและสามารถทำได้ในโรงพยาบาลทั่วไป

คำสำคัญ: laparoscopic simple nephrectomy, pelvic ectopic kidney
Laparoscopic simple nephrectomy in a pelvic ectopic kidney

Komprapat Ruenrojrung

Nakornping Hospital, Chiang Mai

Abstract

Objective: Laparoscopic nephrectomy in the case of an ectopic kidney is an uncommon procedure. Because of anatomic variations each step of the procedure is more varied than a laparoscopic nephrectomy for an orthotropic kidney. This report presents a unique experience in a non-academic hospital

Material and Methods: A 47-year-old male presented with lower abdominal pain and dysuria. Imaging revealed a poorly functioning pelvic ectopic left kidney containing multiple calculi. There were two vascular supplies to the upper and lower pole of the kidney. The patient underwent a successful transperitoneal laparoscopic nephrectomy in April 2011

Results: Anesthetic time was 240 minutes. Laparoscopic time was 160 minutes. Three 10 mm. trocars were used. No major complication occurred. The patient was discharged from the hospital on the 5th day postoperatively

Conclusion: Laparoscopic simple nephrectomy in the case of a pelvic ectopic kidney is a safe and feasible option that offers the advantage of being minimally invasive with an acceptable operative time, even in a low volume center

Keywords: laparoscopic simple nephrectomy, pelvic ectopic kidney
Introduction

An ectopic kidney is a rare condition. The incidence varies from 1 in 2100-3000 in the autopsy series. Therefore, patients with an ectopic kidney who need surgical intervention are not common. Anatomic variations and multiple blood supplies to an ectopic kidney add to the challenge of the laparoscopic approach. Unlike laparoscopic surgery for an orthotopic kidney, there is no consensus about optimal trocar placement; nor is there standardizes step by step technique that can be followed when performing this procedure. Each case is unique. This report presents a first case experience in laparoscopic simple nephrectomy in a pelvic ectopic left kidney.

Material and Methods

The patient was a 47-year-old male who presented with lower abdominal pain and dysuria. Investigation revealed a pelvic ectopic left kidney with multiple renal calculi and severe paper thin hydronephrosis. CT-angiogram demonstrated two renal arteries and veins supplying the upper and lower pole of the kidney. The one that supplied the upper pole derived from the left common iliac vessels. The other one derived from the internal iliac vessels which supplied the lower kidney pole. (Figure 1). The size of the kidney was about 8.5*7 cm. Maximal cortical thickness was 1 cm. There were multiple calculi in the renal pelvis and calyces. Marked delay of the left renal excretory function was noted.

Operative Procedures

The patient was in the semi oblique position. The camera port was placed just beside the umbilicus. Another two 10 mm. ports were placed subsequently. (Figure 2). The sigmoid colon was mobilized first to the medial. After which, the upper kidney pole was mobilized. Then the blood supply from the common iliac vessels were easily identified and controlled. (Figure 3). Because of the thin renal cortex, the upper pole of the kidney was grasped and hung up after the separation of the vessels in the upper pole. The dissection proceeded caudally until reaching the site of the vessels in the lower pole. After control and detachment of the vessels in the lower pole, the remaining dissection was performed with minimal blood loss. There was an accidental rupture of the renal cortex while mobilizing the lower pole of the kidney. A large amount of urine leaked out. The kidney then collapsed to a smaller size. Thus, it could be removed via a specimen bag through a small extended camera port incision.
Figure 2 Three 10 mm. trocar sites and the scar two weeks postoperatively

Discussion

An ectopic kidney is a condition that always challenges surgeons. The frequently anomalous blood supply necessitates preoperative CT-angiogram. The precise imaging also aids in optimal trocar placement. The direction of dissecting the kidney is variable. One report presented a dissection in which the ureter was first divided and then hung up; after which, the dissection proceeded in the cranial direction in order to control the renal pedicle\(^2\). Another report described a successful
case of dissecting caudally after the unsuccessful upward mobilization from the lower pole of the kidney.

In this present case, the relatively large sized kidney may have obscured the identification of the ureter. (figure 4) Thus, the vessels of the upper pole were controlled first in order to circumvent this.

Intraperitoneal urine leakage is a serious event, especially in a malignant disease. Nevertheless, in this case, it only increased the convalescent period by a few days.

**Conclusion**

Laparoscopic simple nephrectomy in a pelvic ectopic kidney is a safe and feasible option that offers the advantage of minimal invasiveness in an acceptable operative time. CT-angiogram is necessary for the precise identification of the anomalous renal vessels, and aids in optimal trocar placement, which differs with each case.

**References:**