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An Unusual Complication of Ureteroneocystostomy Discovered at Laparoscopy

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ABSTRACT

Background: Laparoscopy is an important surgical technique, and an understanding of normal and altered anatomy is crucial for successful surgery. We describe herein a patient in whom the left ureter follows an anomalous course due to previous surgery.

Methods: This is the case report of a 28-year-old female with a history of ureteral reimplantation evaluated with laparoscopy for dysmenorrhea and infertility.

Results: The left ureter followed an anomalous, transperitoneal course, lateral to the fallopian tube, starting at the infundibulopelivc ligament down to its insertion in the bladder. During its transperitoneal course, the ureter perforated the ileum.

Conclusion: This case describes an anomalous course of the ureter presumed to be due to previous childhood surgery. As more individuals with a history of ureteral reimplantation reach adulthood, an increasing number will require abdominal, surgical procedures. An understanding of potential anatomic abnormalities will reduce the risk of inadvertent visceral damage at surgery.

Key Words: Ureteral reimplantation, Bowel perforation, Ureteral abnormalities.

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INTRODUCTION

Laparoscopy is an important tool in the evaluation of a number of gynecologic conditions. To avoid inadvertent damage to normal structures, understanding normal and altered anatomy is crucial for the pelvic surgeon. This report describes an anomalous course of the left ureter presumably secondary to previous ureteral surgery.

CASE REPORT

A 28-year-old female presented with dysmenorrhea and an inability to conceive. Her past surgical history was significant for vesicoureteral reflux requiring childhood ureteral reimplantation. She had no other surgeries. The evaluation for infertility included a normal semen analysis and normal ovulatory function. A laparoscopy was performed due to her increasingly severe dysmenorrhea and infertility. At laparoscopy, the uterus, ovaries, and fallopian tubes were normal with bilateral patency of her fallopian tubes. However, her left ureter followed a transperitoneal course starting at the infundibulopelvic ligament and coursing down to the bladder **(Figure 1)**. At approximately 3 cm from its insertion into the bladder, the ureter appeared to be adhered to the midileum. The adhesions between the bowel and ureter were released, and the ureter was noted to perforate the ileum about 5 mm from the antimesenteric border of the ileum **(Figure 2)**. An Endo-GIA stapler (Tyco Healthcare Group, Norwalk, CT) was used to divide the small band of ileum above the ureter, leaving the larger segment of ileum intact. After the small band of bowel was resected, the lumen of the ileum was narrowed but adequate, so a resection and reanastomosis were not necessary. The ureter was not damaged during this surgical procedure. The patient did well postoperatively and has subsequently conceived.

DISCUSSION

Laparoscopy is a valuable component in the evaluation of pelvic pain and infertility. As other patients with a history of ureteral reimplantation reach adulthood, more of these patients will require pelvic surgery. Knowledge of poten-

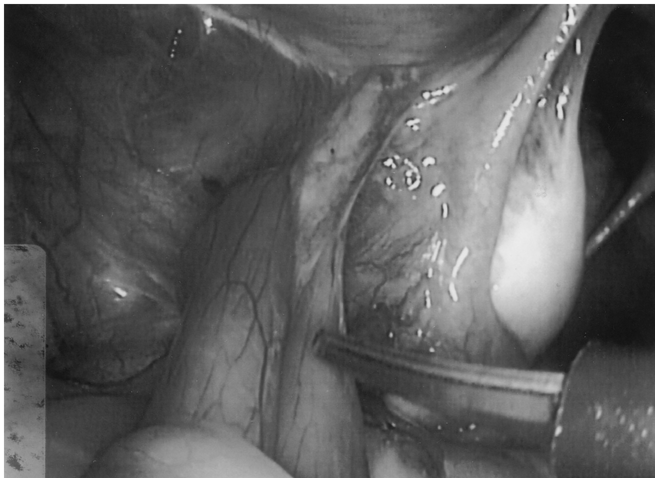

Figure 1. The left ureter with adhered small bowel is noted just lateral to the left fallopian tube and ovary.

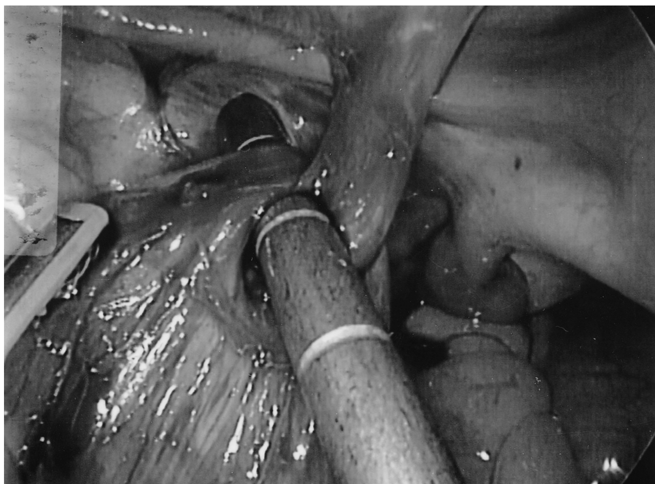

Figure 2. The left ureter has been dissected free from adhesions to the small bowel. The ureter is noted to course above the round ligament just before its insertion into the bladder. The probe has been placed through the perforation of the small bowel, just lateral to the ureter. The small band of ileum above the probe was resected with an Endo-GIA stapler (Tyco Healthcare Group, Norwalk, CT).

tial anatomic abnormalities, such as the one described in this case report, will help avoid inadvertent trauma to viscera at these future surgeries.

Ureteroneocystostomies have been an accepted treatment for severe vesicoureteral reflux since the 1960s. Late, postoperative, bowel sequelea are uncommon, but include bowel obstruction around a transperitoneal ureteric band and unintended viscera perforation.[1,2] The International Reflux Study described 4 of 237 postoperative, ureteral reimplantation patients where the ureter perforated a visceral organ. In 3 of these patients, the perforated organ was the bowel, and in one it was the round ligament. All 4 had early postoperative renal obstruction requiring repeat surgery.[1]

Hussain et al[2] described a case of small bowel obstruction caused by strangulation of the bowel around a ureteric band 17 years after ureteral reimplantation. Kaufman et al[3] described 2 patients following ureteroneocystostomy with distal ureteral obstruction, one with the ureter perforating the small bowel and the other with the ureter perforating the fallopian tube.

CONCLUSION

This case describes a patient with a history of childhood ureteral reimplantation who underwent laparoscopy for dysmenorrhea and infertility. Findings included normal gynecologic organs, with an unrelated finding of asymptomatic perforation of the midileum by the transperitoneal, reimplanted ureter. Due to concerns about future, potential bowel obstruction, the involved ileum was released. This release was accomplished by dividing and stapling, with an Endo-GIA stapler (Tyco Healthcare Group, Norwalk, CT), the small band of ileum above the ureter and leaving the larger lumen intact and functional. This case is important because it describes anatomic anomalies, knowledge of which will assist the pelvic surgeon in avoiding trauma to normal viscera.

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