

Transmesocolic Approach to Laparoscopic Pyeloplasty: Our 8-Year Experience

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ABSTRACT

Open pyeloplasty is the gold standard in the treatment of congenital ureteropelvic junction obstruction. Several reports have shown that laparoscopic pyeloplasty produces comparable results. In this paper, we report a retrospective study of the transmesocolic approach to the left ureteropelvic junction obstruction in 26 patients. As colon mobilization is avoided, the field remains fairly clear. This direct approach also saves time and is least invasive. One patient was lost for follow-up, and 1 patient is awaiting a renogram. Among the remaining 24 patients, 22 patients had improved drainage (IVU or isotope renogram), and 2 of the patients had stable renal function.

INTRODUCTION

MINIMALLY INVASIVE TECHNIQUES TO TREAT ureteropelvic junction (UPJ) obstruction have been developed in the last decade. Open pyeloplasty remains the gold standard.¹ Laparoscopic pyeloplasty, which was first described in 1993,² has been shown to be comparable with open pyeloplasty.^{2,4-7} Laparoscopic nephrectomy has been performed through the mesocolon.⁸ The transmesocolic approach to the left ureteropelvic junction has been described.^{6,9,10} This has a few advantages during a transperitoneal laparoscopic pyeloplasty.^{6,9,10} In this paper, present our retrospective study of the transmesocolic approach to laparoscopic pyeloplasty.

MATERIALS AND METHODS

Since 1998, 73 patients underwent laparoscopic pyeloplasty for congenital pelviureteric junction obstruction. Among them, 26 patients (11 children and 15 adults) had transmesocolic laparoscopic pyeloplasty (on the left side). Thirty-eight patients had laparoscopic pyeloplasty

with colonic mobilization, and 9 patients had retroperitoneoscopic pyeloplasty. Ureteropelvic junction obstruction was confirmed by intravenous urethrogram (IVU) or isotope renogram or both. In some cases, the IVU shows the disposition of the gas shadow of the descending colon. When the colonic gas shadow was well lateral to the pelvis of the left kidney, the possibility of a transmesocolic approach was decided, even preoperatively (Fig.1).

General anesthesia with complete muscle relaxation is essential. Prophylactic antibiotics were administered. Each patient was positioned for preliminary cystoscopy, and a left retrograde pyelogram was done to confirm the ureteropelvic junction obstruction. The first 15 patients had a retrograde stent placement by keeping a 0.032 guidewire with a floppy tip across the ureteropelvic junction into the pelvis, with a 6F ureteric stent passed up to just below the ureteropelvic junction. This was used for retrograde stent placement. However, subsequently, we resorted to antegrade stenting, using a Verress needle (Fig. 2) placed subcostally, as retrograde stent placement was inconvenient.

The patient was then placed in the 70-degree left-flank-up position with a hyperextension of the left hip. The pneumoperitoneum was created by using the Verress needle