

POSTER SESSION MP8  
WEDNESDAY, NOVEMBER 3

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LAPAROSCOPIC PYELOPLASTY IN CHILDREN

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**Introduction :**

Dismembered pyeloplasty is traditionally considered the gold standard in the correction of ureteropelvic junction obstruction (UPJO). While in adults both laparoscopic and endoscopic methods are considered a viable alternatives, this approach has not been widely embraced in children. We describe our experience with laparoscopic pyeloplasty in children.

**Method :**

We reviewed our experience with laparoscopic pyeloplasty in patients between 2 and 12 years of age. UPJO was diagnosed by imaging study (ultrasound, CT, or IVP) and a diuretic renogram. Indication for repair was a diminution in function, progressive dilation or pain. For repair we used a transabdominal approach using three ports, either 3 5mm ports or 1 5mm and 2 3mm ports. An additional 2mm port was used to either introduce a ureteral stent in an antegrade fashion or to place a 7 fr Jackson-Pratt drain; patients had either a drain or a stent. The UPJ was approached either through a mesenteric window or by reflection of the colon. The ureter was dismembered from the pelvis leaving a cuff of pelvis with the ureter. Using the cuff as a handle the ureter was spatulated and then reanastomosed with interrupted 6-0 PDS sutures. Drains were removed in 3 to 5 days; while stents were removed in 4 to 6 weeks. Imaging studies were obtained typically 1 and 6 month following stent removal.

**Result :**

23 patients with a mean age of 7.3 years were treated. Mean operative time was 129 minutes. No intraoperative complications were experienced. Median hospitalization was 1 day. One patient had gross hematuria 3 days post-operatively with subsequent stent occlusion heralded by flank pain. He required a percutaneous nephrostomy tube placement, and subsequently did well. All patients showed improvement in dilation or drainage.

**Conclusion :**

Laparoscopic pyeloplasty is an efficient and effective means of surgical address of UPJO in children.

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URETEROSCOPIC APPROACH IN RECURRENT URETEROPELVIC JUNCTION STENOSIS

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**Introduction :**

Although open pyeloplasty remains the gold standard for treating ureteropelvic junction (UPJ) obstruction, endourological procedures, as minimally invasive techniques, could be very effective, especially in recurrences. Our goal was to establish the value of retrograde endopyelotomy (REP) by cold or laser incision in such cases.

**Method :**

Between November 1997 and November 2003 we performed 30 REP in recurrent UPJ obstruction with III-rd and IV-th grade hydronephrosis (failed ureteropyeloplasty - 17 cases and failed endopyelotomy - 13 cases). Our series was characterized by: absence of renal calculi, absence of crossing renal vessels, stenosis length under 2.5 cm., absence of massive hydronephrosis. We used rigid and flexible endoscopic equipment (Wolf and Storz), cold knife/scissors and holmium YAG laser (for the last 5 cases). In 17 cases, an indwelling ureteral catheter was placed for 2 weeks (blocked ureteral passage because of the UPJ scar tissue). The incision was made under video assistance and fluoroscopy, until the perinephric fat was largely and clearly exposed. An indwelling pyelostent 8/12 F was placed for 8 weeks. The follow-up schedule included sonography (gray-scale and especially Doppler), intravenous urography (IVP), and, in 11 cases, ureteroscopy.

**Result :**

The success of REP did not correlate with the degree of hydronephrosis. In our cases with postoperative recurrent UPJ stenosis, we didn't describe a significant reduction of hydronephrosis. All cases were evaluated at 6, 12 and 18 months. IVP (especially for the ureteropyelvic passage evaluation) and duplex Doppler echography (Resistive Index over 0.70 being considered to be correlated with the obstruction), were the main follow-up investigations. So, we found in 9 cases (30%) normal pyelocaliceal system with large ureteropelvic passage; in 4 cases (13.3%), an important reduction of the hydronephrosis degree with normal ureteropelvic junction; in 17 cases (56.6%) no changes of the hydronephrosis degree. The recurrence rate was 13.3% (4 cases). Minor complications appeared: in 3 cases we coagulated small vessels and 3 cases had urinary tract infections. The mean follow-up period was 38 months (4 to 69 months).

**Conclusion :**

REP may represent an efficient minimally invasive technique in recurrent UPJ stenosis, with a reduced rate of complications, short period of hospitalization and good anatomical and functional results.

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LAPAROSCOPIC URETERONEOCYSTOSTOMY FOR BENIGN LOWER URETERIC STRICTURE

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**Introduction :**

The surgical treatment of distal ureteric strictures depends on their length and aetiology. Laparoscopic procedures in this setting are uncommon. We describe a laparoscopic non-refluxing ureteroneocystostomy for a symptomatic distal ureteric stricture performed on a 26 year old man.

**Method :**

Intravenous urography and retrograde ureterography revealed a distal right ureteric stricture with an associated 'S-shaped' kink proximal to it with upper tract dilatation to the level of the pelvic brim. The stricture was not amenable to endoscopic balloon dilatation and although offered open surgery at a number of other institutions, he opted for laparoscopic excision of the stricture and ureteroneocystostomy.

**Result :**

The distal end of the ureter was freed from dense adhesions and the diseased portion of ureter was excised. A spatulated ureteric anti-reflux anastomosis was performed using a 3-0 polyglactin interrupted intracorporeal suturing technique. The procedure was carried out successfully without complication. Blood loss was 100mls with an operating time of 250 minutes. Intravenous morphine requirements post-operative was 10mg. He was discharged on the fourth day and returned to work after 11 days. Retrograde ureterography and cystography after one month showed no evidence of obstruction or reflux. At 3 months an IVU showed excellent drainage and at 6 months the patient remains asymptomatic.

**Conclusion :**

We advocate the use of laparoscopic ureteroneocystostomy for benign distal ureteral stricture refractory to endoscopic procedures. In symptomatic patients it is a feasible, safe, minimally invasive procedure with all the added benefits of laparoscopy compared with open repair. A non-refluxing anastomosis is preferable and can be achieved without additional morbidity to the patient. Reconstructive and intracorporeal suturing skills are needed to carry out this procedure.

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MINIMALLY INVASIVE MANAGEMENT OF URETEROPELVIC JUNCTION OBSTRUCTION

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**Introduction :**

With the introduction of smaller ureteroscopes, flexible ureteroscopy and holmium laser, antegrade endopyelotomy has been superseded by retrograde endopyelotomy. The aim of this study was to identify whether retrograde endopyelotomy was associated with higher success rates than antegrade endopyelotomy.

**Method :**

All patients with UPJO presenting between April 1994 and May 2004 were entered into a database to record patient, operative and post-operative details. All retrograde and antegrade endopyelotomy procedures were analysed and compared to determine any differences.

**Result :**

A total of 124 patients presented to our department with UPJO of which 60 patients had minimally invasive treatment. 18 patients had an antegrade endopyelotomy and 42 retrograde endopyelotomy. Of the antegrade group, 17 patients had complete follow up. Those patients receiving primary treatment had a success rate of 53% with a mean time to failure of 30 months (range 1-70). 17% of this group had had a previous failed open pyeloplasty and these patients had a success rate of 50%. The retrograde endopyelotomy group consisted of 24 primary and 18 secondary procedures. The primary procedures had a success rate of 71% whilst the secondary procedures were associated with a 53% success rate. The additional use of the endoluminal ultrasound probe in the primary procedures increased the success rate from 50% to 76%, however our numbers are insufficient for statistical analysis.

**Conclusion :**

In our experience, retrograde endopyelotomy is associated with higher success rates than antegrade endopyelotomy. The additional use of the endoluminal ultrasound probe increased our success rates in those patients receiving primary treatment.