



Results of laparoscopic pyeloplasty in a non-academic centre: do we really need a robot?

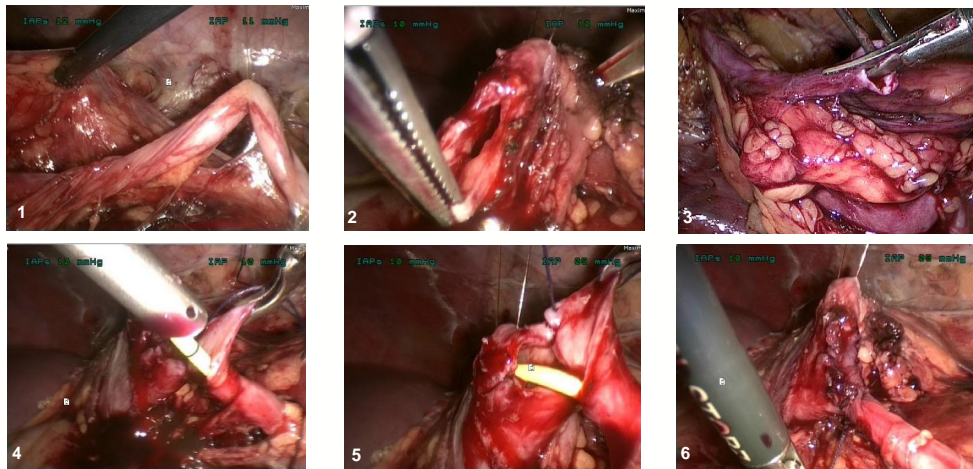
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Introduction

Laparoscopic and robot assisted pyeloplasty have been shown to be as efficacious as the gold standard open technique in the treatment of ureteropelvic junction stenosis. This study shows the results of laparoscopic pyeloplasty in a non-academic center.

Methods

The results of transperitoneal laparoscopic dismembered pyeloplasty (LP) were retrospectively analysed. All procedures were transperitoneal dismembered LP. Two 5 mm working trocars and one 10 mm camera umbilical trocar were used. All instruments were reusable.



Figures
1 Dissection of the ureter is facilitated by using a transcutaneous monocryl suture with a straight needle, avoiding an extra trocar
2 Before starting the anastomosis, the highest point of the renal pelvis is fixed by using a transcutaneous monocryl suture, avoiding an extra trocar
3 Spatulation of the ureter
4 After finishing (part of) the posterior part of the anastomosis, the DJ stent is easily inserted by approaching a 5 mm trocar towards the ureter
5 Result after posterior anastomosis
6 Final result

Conclusion

Our results of LP in a non-academic center are comparable to recent studies of LP and robot assisted pyeloplasty. With the use of only three ports and reusable instruments, the cosmetic results are good and costs are reduced, especially compared to the robot assisted technique.

Results

Between 2006 and 2011, 24 LP were performed by three surgeons. Thirteen patients were female, 11 were male. Mean age (min-max) and BMI were 44 (17-76) years, 27 (19-39) kg/m². Fifteen were left sided UPJ stenosis, 9 right. In 7 patients, a crossing vessel was seen during the intervention. Five patients had a simultaneous stone extraction. One case was a redo LP, one patient had previous renal surgery. Mean operative time and blood loss were 177 (110-276) min, 100 (5-300) ml. Twenty two patients had antegrade DJ positioning. The drain and transurethral catheter were removed after 2.6 (1-5) and 4.8 (3-10) days, respectively. Mean hospital stay was 5.1 (3-13) days.

Patient Characteristics (n=24)

Age, mean (±SD)	44 (19)
Male/female	11/13
BMI, mean (±SD)	27.3 (7.9)
Transperitoneal procedure	24
Side	Left 15 Right 9
Stone extraction	5
Renal function pre-operation, mean (±SD)	Left 48.9 (20.2) Right 51.1 (20.2)
Creatinin pre-operation, mean (±SD)	73.8 (9.7)
OR-time, mean (±SD)	177 (40)
Blood-loss, mean (±SD)	100 (100)
Renal function post-operation, mean (±SD)	Left 51.4 (16.2) Right 48.6 (16.2)
Creatinin post-operation, mean (±SD)	64.7 (10)
Hospital stay in days, mean (±SD)	5.1 (2.6)

SD = Standard deviation

Complications (n=5) (21%)

Minor (n=4) (17%)

Anastomosis leakage	n=1
Trocar bleeding	n=2
urosepsis	n=1

Major (n=1) (4%)

Stent repositioning (reintervention)	n=1
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The complication rate was 21%. 4 patients (17%) had minor complications: leakage at the anastomosis (1 patient), postoperative trocar bleeding needing transfusion (2), urosepsis (1) and one patient (4%) needed repositioning of the DJ stent on the first postoperative day (1), which is a reintervention and classified as major complication. After a follow up of 14.6 (5-43) months, all but three patients had improvement of the renal function and relief of obstruction at the renogram, a success rate of 87%. Only one of three failures remained symptomatic.