Abstract

We report our results and short term follow up of transperitoneal laparoscopic pyeloplasty for pelvi-ureteric junction (PUJ) obstruction. We have performed a total of 54 consecutive laparoscopic pyeloplasties. All procedures were carried out by a single surgeon through a transperitoneal approach. The data extends from April 2002 to September 2009 and reports operative time, blood loss, complications, hospital stay, subjective and radiological outcomes. Fifty-four procedures were reviewed and the mean follow-up was 24 months. The study period. Mean patient age was 29 years. Mean operating time was 133 minutes (range 65-300 minutes), and mean blood loss was 45ml (range 20-300ml) with either blood transfusions or conversion to open surgery required. The mean hospital stay was 3.4 days (range 1-14 days). There were 3 anatomotic leakages, 2 in the immediate postoperative period and 1 following reoperation for persistent drainage and prolonged stenting. Overall 47(87.5%) patients have a symptomatic relief and radiological resolution of obstruction on renogram. Four (7%) patients developed recurrence. Three (5.5%) patients had symptomatic relief but have a persistent obstructive renogram. Laparoscopic pyeloplasty is an effective alternative treatment for symptomatic pelvi-ureteric junction obstruction. The results appear comparable to open pyeloplasty with decreased postoperative morbidity.

Introdution

PUJ obstruction is the most common disease of the ureter, and can lead to progressive hydronephrosis and renal dysfunction. Most cases are obstruction. The results appear comparable to open pyeloplasty with decreased postoperative morbidity.

Methods

We performed a retrospective review of prospectively maintained data of 54 consecutive laparoscopic pyeloplasty (LP) carried out between April 2002 and September 2009. All patients had radiographic evidence of PUJ obstruction on durexus renography in conjunction with symptoms and or deterioration of renal function. All patients had cystoscopy and a double pig-tailed catheter placed retrogradely in the operating room before surgery. The patient was positioned in the Lloyd Davis position using a Hassan Port (10mm) and two 5 mm ports were placed under vision. Peritoneum overlying the kidney was incised and the colon mobilized medially. The PUJ was freed from the surrounding tissues and dismembered Anderson-Hynes pyeloplasty was performed. The anastomosis was completed using 5-0 vicryl running suture over the ureteric stent. A drain was placed close to the anastomosis and a Foley catheter left in place. The urethral catheter was removed on the first post-operative day. If drain output was less than 30ml in the following 24 hours following removal of catheter, it was removed. The ureteric stent was usually removed after 4 weeks with a flexible cystoscopy under local anaesthesia. Patients were assessed symptomatically and radiologically with durexus renogram at 2-3 months and one year. Both subjective relief and renogram results were examined in defining the success of procedure. Patients who remained asymptomatic and whose renogram confirmed relief of obstruction were discharged after 1 year. Patients with evidence of PUJ obstruction recurrence were either monitored or offered a secondary procedure.

Results

In the study period 54 laparoscopic pyeloplasties were performed. The mean age of patients was 29 (range 16-52) years. Pain and recurrent infection were the commonest indications for treatment. Four patients were treated for deteriorating renal function secondary to obstruction. The mean operating time was 133 minutes (for 65-300) and mean estimated blood loss was 40ml (20-300). Crossings vessels were found in 17 (31%) patients. There were no major intra-operative complications and no conversions to open surgery were required. Mean post-operative hospital stay was 3 days (range 1-14days) with 76% of our patients discharged or on 3rd post operative day.

Three patients developed anastomotic leakage, 1 on the 2nd post operative day. 1 in the 3rd week and 1 on the day following the removal of the stent i.e. 4 weeks post operatively. All three required percutaneous drainage and prolonged stenting. One required laparoscopic abdominal exploration for persistent pain but no pathology was found. Of these 3 patients, 1 had a successful outcome and 1 showed recurrence of PUJ obstruction. Overall 4 (7.4%) patients developed recurrence within one year requiring further intervention or follow up. Three patients showed profound hydronephrosis on the post-operative series and were followed up conservatively. Forty weeks after primary success, our study included 27 patients with successful primary outcome and, at least follow up on symptomatic and radiological outcome. Both subjective relief and renogram results were examined in defining the success of procedure. Patients who remained asymptomatic and whose renogram confirmed relief of obstruction were discharged after 1 year. Patients with evidence of PUJ obstruction recurrence were either monitored or offered a secondary procedure.

Discussion

Open pyeloplasty has been the gold standard treatment for PUJ obstruction with reported success rate of >90%. Although both transperitoneal and retroperitoneal approaches have been described, the former is often preferred in Irish urology practice with acceptable short term results and potential patient benefits.

References