

AN AUDIT OF 45 LAPAROSCOPIC APPENDECTOMIES

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ABSTRACT

OBJECTIVE: To study the outcome of 45 cases of laparoscopic appendectomies in our setup.

DESIGN: A descriptive study.

PLACE AND DURATION: This study was carried out at a private medical center in Larkana, for a period of one year, from February 2002 to February 2003.

PATIENTS AND METHODS: After all the relevant investigations, 45 patients suffering from acute appendicitis of different types underwent laparoscopic appendectomy and outcome was assessed.

RESULTS: Among 45 cases, only two were converted to open operation. The average operation time was 48 minutes. All patients, except two conversions, were discharged home by completing 24 hours. There were no major complications or deaths.

CONCLUSION: The advantages of laparoscopic appendectomy over the conventional operation are; minimal pain, minimal wound infection and early return to normal activities. It is therefore, recommended as a standard procedure for acute appendicitis.

KEY WORDS: Appendicitis. Appendectomy. Laparoscopy. Outcome.

INTRODUCTION

Laparoscopic cholecystectomy has been widely accepted as the treatment of choice for symptomatic cholelithiasis¹⁻³ and the laparoscopic appendectomy is now recommended as the procedure of choice for the diagnosis and management of acute appendicitis⁴. Minimal invasive surgery has a considerable impact in the common surgical techniques so that after the laparoscopic cholecystectomy, laparoscopic approach for the treatment of acute appendicitis is becoming popular. It is safe, and efficient procedure for all forms of appendicitis⁵. In this study, we have described our experience with laparoscopic appendectomy in our setup.

PATIENTS AND METHODS

This was a descriptive study of 45 cases of acute appendicitis, which were treated by laparoscopic appendectomy. This study was conducted at a private medical center in Larkana. All the patients were admitted about 12 hours before operation and were diagnosed clinically as well as on ultrasound. The laboratory tests performed were Blood CP, Urine DR and X-ray chest. In selected cases, serum electrolytes and serum creatinine were also done. The elderly patients had ECG and a cardiac opinion was also sought from a cardiologist. Prophylactic antibiotics used were Cefaperazone

(Cefapezone), a third generation antibiotic and Metronidazole, given intravenously preoperatively as per recommended doses.

During surgery, the pneumoperitoneum was created by closed method with verres needle in all cases but in four patients, Open method was used in order to prevent any damage to the viscera, as they had distension in the pelvic region. Three ports were used. First, a 10mm port, just below the umbilicus, used for the introduction of telescope. Second port, also a 10mm port in the epigastric region, used for either dissection or holding the appendix. Third port, a 5mm port at the suprapubic region used for holding the appendix and mesoappendix. After getting hold of the appendix, the appendicular artery and mesoappendix were either cauterised with the coagulation diathermy or clipped with ligaclip. After the confirmation of base of appendix with the wall of caecum, the base of appendix was crushed by applying non-tooth grasper for 2 minutes constantly. Then, ligaclip was applied to encircle the whole lumen of appendix at the site of crushing and the appendix was separated from its base stump distal to clip by using endocutting scissors attached with diathermy. Retrieval of the appendix was performed through 10mm epigastric port. Peritoneal drain was kept in the complicated

cases such as perforated appendix, appendicular abscess or mass. Ethical considerations were met by taking an informed consent by all patients before surgical procedure.

RESULTS

Among the 45 patients, 21 were females and 24 males. Age ranged between 8 and 80 years with a mean age of 44 years. All the patients were completed laparoscopically except two, which were converted to the conventional open operation, thus resulting in a conversion rate of 2/45(4.4%). The operating time ranged between 20 minutes and 75 minutes with an average of 48 minutes. All the patients except two conversions, were discharged home after 24 hours. Port wound infection was seen only in one patient, who had gangrenous appendix. Further details are mentioned in **Tables I and II**.

DISCUSSION

The management of the biliary tract disease has changed as a result of laparoscopic cholecystectomy⁶. Similarly, the management of simple and complicated appendicitis (perforated appendicitis, appendicular lump/ abscess) has also changed due to laparoscopic method. Senapathi has mentioned that the management of patient with appendicular mass is feasible and safe by laparoscopic method⁷. When laparoscopic appendectomy is compared with open approach, there are many advantages. Minimum complication rate and short hospital stay is a clear advantage^{2,8,9}. Ozmen has mentioned in his study that classic open surgery is simple, expeditious and effective but it has some drawbacks including wound infection, sepsis, delayed recovery, operative difficulties and possibility of unnecessary appendectomy for false appendicitis⁴. The conversion to open rate in our study is 4.4% whereas it is 7.7% in the study of Holeczy⁹ and 10% in the study by Cervini¹⁰. The reason for conversion in one case was the subserosal type of appendix. In another case the appendix was perforated at the base (at the junction with caecal wall) and it was difficult to apply the clip.

The average operating time in our study was 48 minutes, while it was 46 minutes in the study by Lorenz¹¹, 40 minutes in that of Ehlert¹² and 45 minutes in the study by Senapathi⁷.

In our study, patients were discharged home after 24 hours post-lap-appendectomy whereas Alvarez

discharged his patients in less than 24 hours⁵.

The port wound infection was seen in only one case (2.23%) in our study. This was 1.77% in Ehlert's¹², and 3.23% in Senapathi's study.

CONCLUSION

Increasing laparoscopic skills allow laparoscopic management of acute appendicitis with the advantages of better diagnostic accuracy, shorter hospital stay, negligible post-operative complications and early return to normal life. Laparoscopic appendectomy is therefore, recommended as a standard procedure for all forms of acute appendicitis.

Table no. I showing different findings of the study.

Parameters	Range with Mean / Number
Age (All Patients) Range Mean	08-80 years 44 years
Sex (All Patients) Female Male	21 (46.66%) 24 (53.33%)
Conversion to open (All patients)	2/45 (4.4%)
Operating Time (Laparoscopic Patients) Range Mean	20-75 minutes 48 minutes
Post-op stay (Laparoscopic Patients)	24 Hours
Complications (Laparoscopic Patients) Port wound infection	1/43 (2.32%)
Deaths	0 (0)

Table no II showing different types of appendicitis cases.

TYPE	NO. OF CASES (%)
Simple Appendicitis	33(73.33%)
Perforated Appendix	06(13.95%)
Appendicular Abscess	03(6.97%)
Appendicular Lump	02(4.65%)
Gangrenous appendix	01(2.32%)
Total	45

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