



Postoperative Outcome of Laparoscopic Appendicectomy- A Study of 100 Cases

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Abstract

Background : An elegant, reliable procedure that can be easily performed is laparoscopic appendicectomy (LA). In patients with undiagnosed abdominal pain requiring more diagnostic investigations, as well as in patients with perforated appendicitis with or without intra-abdominal abscess, this procedure remain useful and safe.

Objective : To evaluate the postoperative outcome and complication in laparoscopic appendicectomy.

Methods : This prospective observational study was conducted at Rezia Taleb Hospital, Dhaka in Bangladesh. Total 100 cases were included in this study during the period of January 2018 to December 2019. Total 100 admitted uncomplicated acute appendicitis patients who underwent LA were enrolled in this study. Diagnosis is based on patient history (symptoms) and physical examination with an elevation of neutrophilic leukocytosis and raised CRP.

In this study inclusion criteria of the cases were- Age < 40 years, Alvarado Score 7 or more, Uncomplicated appendicitis, patients who underwent LA for appendicitis, both sexes. Exclusion criteria were - Incidental LA, patients with significant co-morbid medical conditions, patient unwilling to incorporate with the protocol, patients with psychiatric illness, and who lost to follow-up.

Results : Out of 100 patients, most of them 63(63%) were in age group ≤ 20 years. The mean age was 21.70 ± 6.21 years. Majority 77(77%) were male and 23(23%) were female and male: female ratio was 3.3:1. Among the 100 respondents, majority 95(95%) presented with migratory right iliac fossa pain and 5 (5%) had early postoperative complication. Majority 95(95%) patient's pain control occurred within 1-2 days with NSAID. Out of 95 Uncomplicated patients; Length of Hospital stay was 1-2 days in 90(94.7%) and 3-4 days in 5(5.3%) cases.

Conclusion : This study showed that laparoscopic appendicectomy had found to be associated with shorter hospital stay, decreased postoperative pain and wound infection.

Keywords : Acute Appendicitis, Laparoscopic Appendicectomy, Post-operative Outcome.

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Introduction

One of the most common causes of abdominal pain and surgical emergency was acute appendicitis. Appendicectomy is one of the commonest procedures in surgical practice. McBurney done the 1st open appendicectomy in 1889, since then it has been the gold standard for more than 100 years for the treatment of acute appendicitis.¹

Over the past few years, laparoscopic appendicectomy (LA) has been widely used to treat acute appendicitis. The often-cited benefits are decreased postoperative pain, earlier diet resumption, earlier return to work, and less wound infections.² LA is a secure operation, like

open appendicectomy, and have less postoperative morbidity in experienced hands.³ Laparoscopy, particularly in female patients with abdominal pain of unknown origin, can provide benefits in terms of accurate diagnosis. In patients with acute abdominal pain to differentiate whether there is a normal appendix or recurrent appendicitis, need improve accuracy of diagnosis.⁴

LA was associated with reduced postoperative pain following surgery, a lower risk of wound infections, and faster healing periods. LA for acute appendicitis has been extremely common surgery over the past decade.⁵ The aim of our study was to evaluate the post-operative outcome of LA.

Materials and methods

This prospective observational study was performed between January 2018 and December 2019 at Rezia Taleb Hospitals, Dhaka, Bangladesh, with 6 months of follow-up after surgery.

Total 100 admitted uncomplicated acute appendicitis patients who underwent LA were enrolled in this study. Diagnosis is based on patient history (symptoms) and physical examination with an elevation of neutrophilic leukocytosis and raised CRP. The typical symptoms of acute appendicitis are poorly localized periumbilical pain associated with anorexia, nausea, one or two episodes of vomiting. Low-grade pyrexia, localized tenderness in right iliac fossa, muscle guarding and redound tenderness are the cardinal clinical sign.⁶

Inclusion criteria: 1) Age <40 years, 2) Alvarado Score 7 or more, 3) Uncomplicated appendicitis, 4) Patients who underwent LA for appendicitis, 5) both sexes.

Exclusion criteria: 1) Incidental LA, 2) Patients with significant co-morbid medical conditions, 3) Patient unwilling to incorporate with the protocol, 4) Patients with psychiatric illness, 5) Lost to follow-up. All the study population were undergoing LA by the following surgical procedure.

Surgical procedure: Standard preoperative preparation was used. After induction of general anesthesia, the patient remains in the supine position on the operating table. Pneumoperitoneum was then established, A 10-mm trocar and cannula then introduced through the umbilicus. The camera was then introduced via the umbilical cannula. Laparoscopic examination of the entire abdomen was first performed to rule out other pathology, Additional two 5-mm trocars and cannula were brought in under direct vision in the mid left lower quadrant, and suprapubic or right lower quadrant position. The appendix was then mobilized. An opening was made into the mesoappendix at the base of the appendix, and the mesoappendix was divided with a Harmonic scalpel. The base of the appendix was divided between hem-o-lok clip or endoloop. The specimen removed through the 10-mm cannula site. After removal, the operative site was inspected, and umbilical port was sutured. Ceftriaxone and metronidazole were used throughout the postoperative period. Post-operative pain was managed with NSAID. Post-operative complications were managed accordingly.

Result

The total number of 100 uncomplicated appendicitis patients were included in this study. Majority of patient 63 (63%) were in age group ≤20 years followed by 26(26%) were in age group 21-30 years. The mean (±SD) age was 21.70±6.21 years. (Table I)

Table I : Age distribution of the study populations (n=100)

Age in years	Frequency	Percentage (%)	Mean±SD
<20	63	63.0	21.70±6.21
21-30	26	26.0	
31-40	11	11.0	
Total	100	100.0	

Among 100 respondents 77(77%) patient were male, 23 (23%) were female and male: female ratio was 3.3:1. (Fig I)

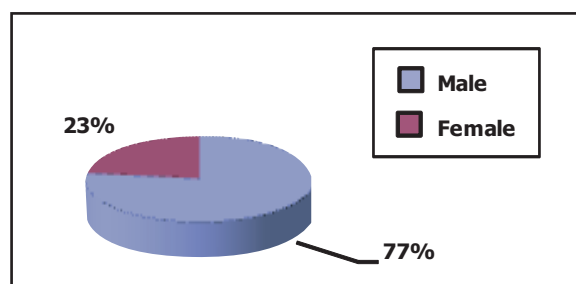


Figure I : Sex distribution of study populations (N=100).

In our study, majority of the patients presented with migratory right iliac fossa pain 95(95%) whereas 5(5%) presented with localized right iliac fossa pain. (Table II)

Table II : Nature of pain during presentation of study population (n=100)

Nature of pain	Frequency	Percentage (%)
Migratory right iliac fossa pain	95	95.0
Localized right iliac fossa pain	5	5.0
Total	100	100

We found that total 5(5%) patient had early post-operative complications (Umbilical port site infection, Pelvic abscess). Among them 3(3%) had umbilical port site infection and 2(2%) patient had pelvic abscess. (Table III)

Table III : Early post-operative complication of study population (n=100)

Complication	Frequency	Percentage (%)
Umbilical port site infection	3	3
Pelvic abscess	2	2
Total	5	5

In our study, 95(95%) patients required NSAID for 48 hours and only 5(5%) needed NSAID for postoperative pain management for more than 48 hours. (Table IV)

Table IV : Total duration of postoperative analgesic requirement of study population (n=100)

Postoperative NSAID	Frequency	Percentage (%)
Up to 48 hours	95	95
>48 hours	5	5
Total	100	100

Among 95 uncomplicated patients, most of the 90(94.7%) patients were discharged within 1-2 days from the hospital and

very few, only 5(5.3%) discharged after 3-4 days. (Fig I)

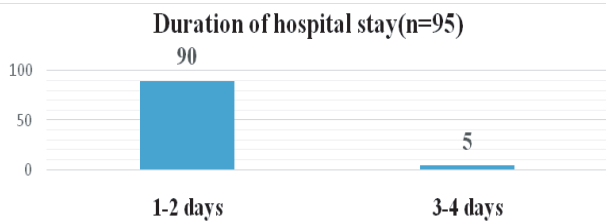


Figure 2 : Duration of hospital stay of uncomplicated patient (n=95)

Discussion

The adoption of laparoscopic procedures in general surgery has been the single largest advancement in surgical practice in the last two decades. A greater concern in the 21st century is patient satisfaction. Different studies have shown that the laparoscopic method could be applied to most cases of appendicitis with high degree of success and low complication incidence.⁷ Therefore, this procedure achieve greater patient's satisfaction also.

In the present study out of 100 respondent 63% patients were in age group of <20 years followed by 26% were in age group between 21-30 years and mean age was 21.70±6.21 years. Among all respondents 77% were male and 23% were female and their ratio was 3.3:1. In the study done by Khan et al. with 91 patients, found that 73(69.2%) were men and mean age was 48 years.⁷ In a descriptive study of 40 patients done by Vargün et al. found that 25 males and 15 females with 50% of the patients being in age group of 21-30 years. The results of the present study were nearly similar with them.⁸

Among the 100 respondent's majority (95%) presented post-operative migratory right iliac fossa pain. Martin et al. reported similar result regarding pain after laparoscopic appendectomy.⁹

In our study, there was umbilical port infection (3%). Pelvic abscesses formation rate was also lower (2%). The risk of wound infection is less in laparoscopic appendectomy. A randomized controlled trial has been reported with outcomes of 2877 patients included in 28 trials was done by Katkhouda N et al. where wound infections were definitely reduced (2.3%), which was similar to our study.¹⁰

We found that post-operative pain was significantly less in LA; Khalil et al. found significant less postoperative pain in LA.¹¹ In our study the length of hospital stay is presumed to be shorter which is consistent with Hansen JB et al. Kumar et al. and Ali et al. study where they found mean hospital stay 1.3 days.¹²⁻¹⁴

Conclusion

LA is as safe as effective procedure. It is beneficial regarding a shorter hospital stay and earlier recovery. Where the facilities and expertise are available for LA, it might be the choice for treating acute appendicitis if the patient could afford. Of course the final decision of selection of method of surgery depends on the operating Surgeon.

Conflicts of interests: None.

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References

1. Jan WA, Rehman ZU, Khan SM, Ali G, Qayyum A, Mumtaz N. Outcome of open versus laproscopic appendicectomy in department of surgery, lady reading hospital, Peshawar. JPMI 2011;3: 245 – 251.
2. Ekeh AP, Wozniak CJ, Monson B, Crawford J, McCarthy MC. Laparoscopy in the contemporary management of acute appendicitis. The American Journal of Surgery 2007;193:310–314.
3. Mishra RK. Laparoscopic Operative Procedures: World Laparoscopy Hospital 2008
4. Klingler A, Henle KP, Beller S, Rechner J, MD, Zerz A, Wetscher GJ, Szinicz G. Laparoscopic Appendicectomy Does Not Change the Incidence of Postoperative Infectious Complications. Am J Surg. 1998;175:232–235
5. Brügger L, Rosella L, Candinas D, Guller U. Improving Outcomes After Laparoscopic Appendicectomy A Population-Based, 12-year Trend Analysis of 7446 Patients. Ann Surg 2011;253:309–313
6. Williams NS, Bulstrode C J.K., O'Connell PR. Bailey & Love's short practice of surgery. 25th edi. London: Hodder Arnold; 2008.p.1204-1218
7. Khan JS, Hassan H, Farooq U. Appendicectomy; laparoscopic vs open. Professional Med J Jan-Feb 2012;19(1): 001-005.
8. Vargün R, Ya murlu A, Bingöl-Kolu M, Özkan H, Gökçora H, Aktu T, Dindar H. Management of childhood appendicitis: laparoscopic versus open approach. Ankara Üniversitesi Tıp Fakültesi Mecmuası 2006; 59:32-36.
9. Martin LC, Puente I, Sosa JL, Bassin A, Breslaw R, McKenney MG. Open versus laparoscopic appendicectomy . A prospective randomized comparison. Ann Surg 1995;222:256-62.
10. Katkhouda N, Mason RJ, Towfigh S, Gevorgyan A, Essani R. Laparoscopic versus open appendicectomy : a prospective randomized double-blind study. Ann Surg 2005;242:439-48.
11. Khalil J, Muquim R, Farique M, Khan M. Laparoscopic versus open appendectomy: A comparison of primary outcome measure. Saudi J Gastroenterol 2011;17:236-40.
12. Hansen JB, Smithers MB, Schache D, Wall DR, Miller BJ, Menzies BL. Laparoscopic versus open appendicectomy: prospective randomized trial. World J Surg 1996;20:17-20.
13. Kumar B, Samad A, Khanzada TW, Laghari MH, Shaikh AR. Superiority of Laparoscopic appendicectomy over Open appendicectomy : The Hyderabad Experience. Rawal Med J. 2008;33:165-168.
14. Ali A, Moser MAJ. Recent experience with laparoscopic appendicectomy in a Canadian teaching centre. Can J Surg.2008;51:51-55.



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