

A SEVEN YEAR EXPERIENCE IN LAPAROSCOPIC APPENDECTOMY – A RETROSPECTIVE CASE SERIES ANALYSIS

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ABSTRACT

Introduction- Appendicitis is one of the most common acute abdomen conditions requiring surgery, with a lifetime incidence of 6-8%. Appendectomy is one of the most common surgical procedures performed worldwide. With the advancements of minimally invasive surgery laparoscopic appendectomy has become the standard of care for patients with acute appendicitis and is treatment of choice for both complicated and uncomplicated appendicitis.

Aim- The purpose of this study is to evaluate the outcome of laparoscopic appendectomy for the treatment of acute appendicitis.

Methodology- A retrospective analysis of patients who had undergone laparoscopic appendectomy for acute appendicitis between 1st April 2015 and 31st march 2022 has been performed. This data is taken only from the Department of General Surgery, SCB Medical College and Hospital, Cuttack.

Results- Out of the 412 patients who underwent laparoscopic appendectomy, 193(46.8%) were females and the remaining 219(53.2%) were males. Most of them are in the age group of 21-40 years (42.5%). 309 (75%) patients were discharged between 72-96 hours.

Conclusion- Laparoscopic appendectomy is as safe and effective as conventional surgery, has a higher diagnostic yield, and offers a more rapid postoperative recovery with less post-operative pain, fewer complication rates and shorter recovery periods in comparison to open procedures.

Keywords- Acute Appendicitis, Laparoscopic Appendectomy, Minimally invasive surgery

Category – Original Article

Statements and declarations:

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All data included in this study are available upon request by contact with the corresponding author.

Introduction: Appendicitis is one of the most common acute abdomen conditions requiring surgery, with a lifetime incidence of 6-8%.[1] Appendectomy is one of the most common surgical procedures performed worldwide; with the advancements of minimally invasive surgery laparoscopic appendectomy has become the standard of care for patients with acute appendicitis. [2,3] Laparoscopic appendectomy has become the treatment of choice for both complicated and uncomplicated appendicitis.[4] Laparoscopic appendectomy (LA) has the advantage of providing better access and good visualization of the peritoneal cavity through small incisions, as compared to open appendectomy (OA). Logically, LA should be beneficial in the management of complicated appendicitis which has more morbidity than simple appendicitis.[5]

Aim of the study- The purpose of this study is to evaluate the outcome of laparoscopic appendectomy for the treatment of acute appendicitis.

Patients and Methods- A retrospective analysis of patients who had undergone laparoscopic appendectomy for acute appendicitis between 1st April 2015 and 31st March 2022 has been performed. This data is taken only from department of General Surgery, SCB Medical College and Hospital, Cuttack. Only the data of those patients who have undergone laparoscopic appendectomy were taken. The diagnosis of acute appendicitis was established with physical examination, laboratory tests and ultrasound examination or has ruled out other cause of right lower abdominal pain especially in females. All the procedure was performed by a Laparoscopic surgeon. The operation is performed under general anaesthesia. The techniques were like those described in the laparoscopic literature. LA was usually performed with the patients in a Trendelenburg position rotated right side up and a three-trocar technique at the umbilical, suprapubic, and right lower quadrant positions. The surgeons altered trocar placement at their discretion. Using a 30" video laparoscope the mesoappendix was segmentally ligated or thermo coagulated to the base, the appendix was doubly ligated with 1-0 cat gut through Roeder knot, and the stump was not buried.[6] All the patients received pre-operative antibiotic continued post operatively as indicated

Results-

A total of 412 patients underwent Laparoscopic Appendectomy. Most of the patients are in the age group of 21-40 years (42.5%) followed by 41-60(29.2%) years age group.

Table-1: Age distribution of patients studied

Age in years	No. of patients	%
1-20	70	17
21-40	175	42.4
41-60	120	29.1
61-80	47	11.5
Total	412	100

Table-2: Gender distribution of patients studied

Gender	No. of patients	%
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Female	193	46.8
Male	219	53.2
Total	412	100

In this study, male patients were found to be more compared to females.

Table-3: Hospital Stay

No. of days in hospital	No. of patients	%
1-2	29	7.2
3-4	309	75
5-6	67	16.2
7 or more	7	1.6
Total	412	100

Majority of the patients got discharged after 72 hours.

Table-4: Drain distribution of patients studied

Drain	No. of patients	%
No	376	91.2
Yes	36	8.8
Total	412	100

36 patients had drain (table 4).

The decision to put drain was taken during the time of surgery. Also, the duration of their stay in hospital goes up for the patients with drain

Discussion

The open appendectomy through right grid iron incision was introduced by Mc Burney (Mc Burney 1894) and this technique enjoyed decades of un-opposed reputation and widespread use globally because of its proven safety and efficacy. The introduction of laparoscopy has brought a major change in the field of surgery. The laparoscopic appendectomy is gradually gaining popularity over the past 10-15 years by way of proving improved diagnostic outcome and decreased rate of wound problems. LA has all the potential benefits of other minimal access procedures; many studies having demonstrated lower complication rates, shorter hospitalization, and more rapid recovery and return to normal activity. Laparoscopy has gained widespread acceptance in common surgical practice as a diagnostic and therapeutic tool . Suspected appendicitis is still a diagnostic challenge to the general surgeon. To nplan the appropriate procedure or to avoid an unnecessary laparotomy, a correct diagnosis is crucial because of the various diseases that may be responsible for the same symptoms. Non invasive diagnostic procedures are expensive and not always conclusive .It is generally believed that minimal lyminvasive surgeries result in less post-operative pain, fewer complication rates and shorter recovery periods in comparison to open procedures . Initially with the introduction of laparoscopy in surgery, reports on the use of laparoscopy for appendicitis focused only on its efficacy as a diagnostic tool. The advantage of LA over open procedure was supported by several studies . For instance, a meta-analysis has shown that LA results in earlier resumption of normal activity, less post-operative complications, and longer operative time. In this study too, there were no major complications at post-operative period,

only those patients with drain stays for a longer period in Hospital. Drain was placed intraoperatively in view of intra-operative findings like perforated appendix, gangrenous or with fluid/abscess collection. A particular problem with laparoscopic appendectomy is the differing experience of surgeons performing this operating procedure. But, as surgical expertise increases with the number of operations, a surgeon who routinely performs appendectomy laparoscopically will more likely be able to handle complicated appendectomies in the same manner. The diagnostic accuracy of laparoscopy is very high, 89% to 100% rate reported in the international literature. Debate still exists about the cost comparisons between laparoscopic and open appendectomy. Most surgeons have the opinion that laparoscopic appendectomy is cost effective. It may be more expensive for the hospital but it offers diagnostic accuracy, offers cost saving to society as a result of faster returns to work.

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