

# Contemplation of Laparoscopic Appendicectomy In Complicated Appendicitis

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Date of Submission: 10-06-2025

Date of Acceptance: 23-06-2025

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## I. INTRODUCTION

- ☒ Appendicitis is the commonest abdominal surgical emergency in the world. It can occur at any age, though it is rare under the age of five years.
- ☒ The commonest problem causing lot of suffering, pain and morbidity. Most commonly patients present with symptoms like pain, vomiting and fever.
- ☒ Delay may lead to complications like appendicular abscess/mass, gangrene, perforation and peritonitis. Surgery is the main stay of treatment.
- ☒ Minimal invasive surgery has had a considerable impact on common surgical techniques and has almost replaced established operative procedures such as in cholecystectomy.
- ☒ Laparoscopic approach for the treatment of acute appendicitis is becoming very popular.
- ☒ The main advantage of laparoscopic surgery in abdominal surgery is related to the avoidance of a laparotomy wound and its infection, less pain, short stay in hospital, early return to normal work and cosmesis.
- ☒ The role of laparoscopic appendicectomy remains the best as many researchers have suggested that overall morbidity is very less depending upon degree of appendicitis.
- ☒ The objective of this study is to make awareness and to clear some of the issues and to provide satisfactory results of laparoscopy in complicated appendicitis.

## AIM OF THE STUDY

- ☒ The aim of the present work is to study the

## INCLUSION CRITERIA

- ☒ Any of the following criteria should be present to say the case as Complicated appendicitis
  - 1) Appendicular abscess
  - 2) Gangrenous appendix
  - 3) Perforated appendix
  - 4) Appendicitis with dense adhesions
  - 5) Appendicitis with peritonitis

## EXCLUSION CRITERIA

1. Laparoscopic appendicectomy with out any complication
2. Suspicion of malignancy
3. Pregnant with complicated appendicitis

## II. MATERIALS AND METHODS

- ☒ The study subjects of this dissertation consist of patients who will undergo Laparoscopic appendicectomy at GGH Vijayawada who meet the following inclusion criteria and exclusion criteria.
- ☒ Due consideration will be given to match the variables like age, sex, duration of symptoms etc., to the maximum possible extent. Informed consent will be taken for all patients.

- ☒ STUDY SAMPLE : An estimated no of 30-50 cases will be taken.
- ☒ DURATION OF STUDY : 20 months (January 2019 to October 2020)
- ☒ Data will be collected on combining the clinical examination, pre operative findings as well as postoperative recovery and incidence of complications during three months followup.
- ☒ At the end results of the study will be analysed

## INVESTIGATIONS

- ☒ Complete blood picture
- ☒ Ultrasound abdomen
- ☒ X-ray erect abdomen
- ☒ Chest X-ray
- ☒ ECG
- ☒ CT scan abdomen
- ☒ Complete urine examination

## STUDY OUTCOME AND DISCUSSION

### Patient Demographics :

Study outcome on analysis of data with 25 patients who underwent Laparoscopic appendectomy was as follows.

AGE AND SEX DISTRIBUTION :  
**TABLE No. 1: SHOWING AGE AND SEX DISTRIBUTION**

	LAPAROSCOPIC APPENDECTOMY	
	No	%
Patients analysed	25	100%
SEX:		
Male	14	56%
Female	11	44%
Age(years)		
<20	4	16%
20-30	12	48%
31-40	7	28%
41-50	2	8%
51 & Above	0	0
Mean Age(yrs)	28.56	

14 patients were men(56%) and 11 patients were women(44%) out of 25 patients .  
The mean age of patients in the groups is 24.28 and 23.96 years, respectively

## COMPLICATIONS DURING FOLLOW UP PERIOD

During the three months follow up period complications as peritonitis, intra abdominal abscesses , , stump appendicitis, fistula formation, burst of ports and adhesive intestinal obstruction were NIL.

## III. Discussion

Laparoscopic append icectomy has gained lot of attention around the World. Laparoscopic appendectomy is mostly safe and effective and is an excellent alternative for patients with acute appendicitis and its complications. Laparoscopic appendectomy is widely available. All surgeons agree that for women in childbearing age Laparoscopic append icectomy is unquestionably the method of choice as safe procedure, providing less postoperative morbidity and reducing the postoperative hospital stay , return to normal activity, complications and is cosmetically better. Outcome is measured primarily in terms of

generalized peritonitis, wound infection, fistula formation, stump appendicitis, port site hernia, intraabdominal abscesses and adhesions leading to intestinal obstruction involved in the group are studied.

In our study we comprise the patients who came with signs of peritonitis or appendicular mass or abscess or gangrene or appendicitis with dense adhesions or perforated appendix and those with gangrenous and perforated appendix.

In our group of 25 patients 7 patients presented to hospital with early mass, dense adhesions and none of the patients had any complications such as wound infection, intestinal obstruction during post operative period and follow up period of three months. This was similar with PSP Senapathi et al 2002<sup>16</sup> who operated on appendicular mass 10 patients and generalized peritonitis 2 patients and outcome was without complications. Similar outcomes were reported by BK Goh<sup>15</sup>, LR Padankatti-2008<sup>17</sup>, R. Rai-2007<sup>18</sup>.

In our study group of 25 patients 18 presented to hospital with perforated appendix either at the base or tip or in the middle and 6 patients presented with gangrenous appendix and none of the patients have had intra abdominal abscess formation and two patients with port site or surgical wound infection during the post operative period or during the three months follow up period. Frazee RC et al- 1996<sup>1</sup> - In his study reported that five (26%) of 19 patients of perforated appendix operated laparoscopically developed intra abdominal abscesses and two (10%) patients developed postoperative wound infection. 15

gangrenous cases operated and 1 (7%) patient developed intra abdominal abscess.

K. Kathouda et al- 2000<sup>2</sup> reported 1 patient with intra abdominal abscess of 46 laparoscopic appendectomy cases and nil intra abdominal abscess case in 60 perforated patients. Pokala N et al 2007<sup>4</sup> has reported 6 cases of intra abdominal abscesses in 43 patients operated laparoscopically for gangrenous appendix.

#### **IV. Conclusion**

On analysing the data, we found satisfactory results and outcome with laparoscopic procedure in complicated appendicitis. Laparoscopic appendectomy has had higher rates of successful outcomes in complicated appendicitis like as early mass, perforated appendix, gangrenous appendicitis with dense adhesions. Outcome parameters like complications of peritonitis, fistula formation, intra abdominal abscesses, stump appendicitis and adhesive intestinal obstruction were negligible except wound infection at the port site through which gangrenous and perforated appendix removed out which is of very minimal significance.

Our study certainly proves that every new emerging technological procedures should be learnt and practiced with good dedication. Study proved that laparoscopic appendectomy is the BEST approach in patients presenting with complicated appendicitis.

#### **REVIEW OF LITERATURE**

- ☒ Newer minimal invasive technique laparoscopic surgery is the revolution in surgical field.
- ☒ The introduction and acceptance of laparoscopic surgery for gastro intestinal disease will
- ☒ Introduction and application of new technology to perform old procedures will be evaluated.
- ☒ Application of alternative technologies. In this context, robotic, surgical components, self
- ☒ The ultimate goal will be the interface of the problem solving powers of medical mind with the
- ☒ phase of laparoscopy.
- ☒ In 1755 Heister recognised that the appendix might be the site of acute primary inflammation.
- ☒ Goldbeck in 1830 developed the concept of inflammation arising in the cellular tissue surrounding the cecum called perityphlitis.

## PROFORMA

### CASE SHEET

Name:

Unit :

Age/Sex :

IP NO :

Address :

D.O.A :

D.O.S. :

D.O.D :

**Complaints & Duration :**

**H/o Present illness:**

**Past history:**

**Personal history :**

**Family history :**

**General Examination:**

**Vital Data:**

B.P :

Pulse :

R.R :

Temp :

☐ **Local Examination:**

☐ ABDOMEN :

☐ Inspection:

☐ Palpation:

☐ Percussion:

☐ Ascultation:

☐

☐ **Other Systems :**

☐ C.V.S :

☐ Resp :

☐ C.N.S :

☐ **CLINICAL DIAGNOSIS :**

☐ **Investigations:**

☐ Hemoglobin%:

☐ Random Blood Sugar:

☐ Blood Urea:  
☐ S.Creatinine:  
☐ Total Count:  
☐ Diff. Count:  
☐ E.S.R:

☐

☐

☐ **URINE:**

☐ Albumin :  
☐ Sugar:

☐ **Microscopy :**

☐ Pus cells :

☐

☐ Epithelial cells :

☐

RBC Casts :

☐ **Ultrasound Examination Of Abdomen:**

☐ **Radiological X-Ray Abdomen :**

☐ **X-ray chest:**

☐ **ECG :**

☐ **Operative Findings :**

☐ **Procedure:**

☐ **Post Operative Period and follow up for three months:**

☐ Wound infection

☐ Peritonitis

☐ Intra abdominal abscesses

☐ Fistula formation

☐ Appendicitis in the stump

☐ Burst of ports

☐ Adhesive intestinal obstruction

☐ **Histopathological Examination of the Specimen:**

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☐ **FINAL DIAGNOSIS**

### References

- [1]. Fitz RH. Perforating inflammation of the vermiform appendix with special reference to its early diagnosis and treatment. Am J Med Sci. 1886;92:321-346.
- [2]. Itskowitz MS, Jones SM. Appendicitis. Emerg Med. 2004;36:10-15.
- [3]. Andersen B, Nielsen TF. Appendicitis in pregnancy: diagnosis, management and complications. Acta Obstet Gynecol Scand. 1999;78:758-762
- [4]. Koepsell TD. In search of the cause of appendicitis. Epidemiology. 1991;2:319-321.
- [5]. Owings MF, Kozak LJ. Ambulatory and inpatient procedures in the United States, 1996. Vital Health Stat 13. 1998;139:1-119.
- [6]. Ambjomsson E. Acute appendicitis and dietary fiber. Arch Surg. 1983;118:868-870.
- [7]. Korner H, Sondenaa K, Soreide JA, et al. Incidence of nonperforated and perforated appendicitis: age-specific and sex-specific analysis. World J Surg. 1997;21:313-317.