



## COMPARISON OF SURGICAL SITE INFECTION BETWEEN OPEN APPENDECTOMY AND LAPAROSCOPIC APPENDECTOMY

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**ABSTRACT** Appendectomy is most common surgical procedure in emergency surgery. Inflamed appendix can be removed laparoscopically (laparoscopic appendectomy) or openly (open appendectomy). Surgical site infection is representative of health care associated infection in which it may effect on patients' morbidity and mortality. The aim of the study is to compare laparoscopic appendectomy and open appendectomy in terms of surgical site infection. The frequency of 60 patients who underwent appendectomy open appendectomy-40; laparoscopic appendectomy-20 between September 2019- march 2020 which were retrospectively reviewed for demographic and pathological characteristic, recovery of bowel movements, length of hospital stay and post-operative complications. The frequency of purulent/gangrenous or perforated appendix were Laparoscopic appendectomy-10% and in open appendectomy 20%. The time of first flatus after surgery were 2.9 days and in open appendectomy were 2.97 days in laparoscopic appendectomy. Length of hospital stay were relatively short in laparoscopic appendectomy group and in open appendectomy group. The frequency of overall surgical site infection were not that difference between the two groups laparoscopic appendectomy -15% open appendectomy group were 22%. But that of superficial surgical site infection was significantly lower in laparoscopic appendectomy group 5% open appendectomy group 15%.

**KEYWORDS :** Surgical site infection ,laparoscopic appendectomy, open appendectomy

### INTRODUCTION

Open Appendectomy which was described first by McBurney in 1894. In 1983, laparoscopic appendectomy was introduced by Semm. It has been conducted more frequently than open appendectomy due to its advantage of minimal invasive procedure.

Laparoscopic surgery can shorten length of hospital stay, accelerate post op recovery and produces less pain.

Surgical site infection is representative of health care associated infection in which it may effect on patient's morbidity and mortality.

The aim of the study is to compare laparoscopic appendectomy and open appendectomy in terms of surgical site infection.

### CASE STUDY

Out of 60 patients diagnosed as appendicitis were operated at tertiary care hospital at Vizag from September 2019 to march 2020.

The subjects consists of 25 female and 35 male patients and mean age was 29 years.

Open appendectomy was performed through right lower quadrant muscle splitting incision. The thread was tied at the base of appendix and cut.

In laparoscopic appendectomy, 3 ports were used, one 10mm port at inferior margin of umbilicus, other at left lower quadrant and another one at suprapubic area. Mesoappendiceal tissue was ligated by electrocautery

Severity of illness (suppuration, gangrene/perforation or abscess formation) was determined through HPE report.

Each patient medical records were reviewed in terms of operation time, time of start of normal diet, length of hospital stay, post-operative complications

**Characteristics Between Laparoscopic And Open Appendectomy Table – 1 General Details**

Characteristics	Open appendectomy	Laparoscopic appendectomy
Operative Time(mins)	42.8	52.8
Day of passing flatus	2.97	2.9
Length of hospital stay	5.2	4.1
Ileus	2	0
Superficial incisional ssi	6	1
Deep incisional ssi	1	0

### DISCUSSION

• Laparoscopic surgery allows for safe and aesthetic operation. It also accelerates recovery and produces less pain.

• In current study, the time of first flatus after surgery was not that significant difference between 2 groups. The reason is appendectomy is minor surgical procedure that recovery of git system is not significantly affected.

• Length of hospital stay was relatively low in laparoscopic appendectomy group. the mean age of the patient of both age groups were 29

• Operation time was significantly longer in laparoscopic appendectomy group than open appendectomy group. Khan et al., reported that median operated time was 51.3 min in laparoscopic appendectomy group and 40.6 min in open appendectomy group. The longer operation time in LA group than OA group may be explained by additional time required for preparation of laparoscopic instruments. the operation time in LA group may be shortened by trained surgeon.

• Shalak et al. [8] mentioned systematic extraction of grossly infected appendices with a bag. The extraction bag (Lap-bag, Sejong Medical, Paju, Korea), which was used in all cases in the LA group, allows the surgical wounds to avoid direct contact with the infected appendices or inflamed tissues around the appendices.

• In present study, the overall SSI was not that significant difference between two groups but superficial SSI were more evident in severe form of appendicitis such as suppurative, gangrenous and perforation.

• SSI may occur anywhere from the skin, subcutaneous, fascia, organ/space in both LA and OA groups. However, the superficial SSI were rare in LA group because of unique nature of laparoscopic procedure that inflamed appendix was removed in a bag. Shalak et al., group mentioned that grossly infected appendix was extracted by bag in which it avoids direct contact with skin.

• In OA group wounds were vulnerable to infection due to direct contact to the wound.

### CONCLUSIONS

Superficial surgical site infection were more common in Open appendectomy group than Laparoscopic appendectomy group and postoperative recovery is well in laparoscopic appendectomy

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