

## Laparoscopic Appendectomy: Study of 60 Cases done at GCS Medical College, Ahmedabad

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### Abstract

**Introduction:** Laparoscopic Appendectomy is a gold standard of surgical management of Appendicitis. Our study is an Experience of first 60 cases of Laparoscopic Appendectomy at newly opened GCS Medical College and Hospital, Ahmedabad. **Objectives:** To study Laparoscopic Appendectomy with respect to operative time, patient comfort, post-operative complications, hospital stay and cost effectiveness. **Methodology:** A non randomized study of first 60 patients underwent Laparoscopic Appendectomy from December 2012 to August 2014 in surgery department of newly opened Teaching Hospital in Ahmedabad, Gujarat, India. **Result:** Mean operative time was 40 minutes; average post-operative hospital stay was 3 days, post-operative complication rate was 8.33% including URTI, Fever and Wound Infection. None of the patient required conversion to open surgery. **Conclusion:** Results of Laparoscopic Appendectomy in our Institute were comparable with referenced studies and International data. It is also cost effective. **Recommendation:** A newly established surgical training Institute must focus on performing basic Laparoscopic surgeries such as Lap Appendectomy on routine basis. the procedure were identified as the main predictors of surgical site infections.

**Key Words :** Laparoscopic Appendectomy, Cost effectiveness, Hospital stay

### Introduction

Laparoscopic surgery has become a necessity in a surgical department nowadays and is being performed with increasing frequency nationwide in tertiary care centers. Basic and advanced Laparoscopy techniques have established themselves as gold standard in management of disease of appendix, <sup>(1, 2, 3)</sup> gall bladder, hernia etc. For any center well equipped with necessary technical set up it has become mandatory to provide facilities and skill demanded for Laparoscopic surgery. We put forward our experience of Laparoscopic appendectomy performed at GCS Medical College and Hospital over past two years.

First Laparoscopic Appendectomy was performed by Dr. Kurt Semms in 1982. <sup>(4)</sup> Before that in India some surgeons were performing laparoscope assisted <sup>(5)</sup> appendectomy with the help of gyneac Laparoscope under direct vision through a small incision in right iliac fossa and delivering the appendix outside the abdomen up to the base of the appendix and appendectomy were performed.

This technique was not helpful where omentum was adherent with inflamed appendix or appendicular Lump was developed.

### Objectives

To study Laparoscopic Appendectomy with respect to operative time, patient comfort, post-operative complications, hospital stay and cost effectiveness. Return to activities of daily routine and patient compliance.

### Methodology

Data of all Laparoscopic surgeries performed between 2012 and 2014 was retrospectively reviewed. Total of 60 cases of Laparoscopic Appendectomy were performed during the period of two years from December 2012 up to August 2014. A follow up period of two months was selected to observe general complications of surgery. Patients of uncomplicated appendicitis with emergency and elective Appendectomies were selected in study.

Laparoscopic surgery was performed after Diagnosis, Pre operative preparations and anesthetic work up. All patients were operated in a sterilized modular operation theater and all universal precautions were followed. Pneumo peritoneum was created using close veress needle method and Intra Abdominal Pressure between 10-15 mmHg was kept depending up on operative findings. Optical xenon light source and 30 degree camera with tri color chip set were used. All patients were evaluated on age, sex, ASA grade, pre operative co-morbidities, intra operative findings, intra operative complication rate, mean operative time, post operative stay and general complications of Laparoscopic surgery.

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#### Port position for laparoscopic appendectomy

- 1 Hypogastric port 5mm
2. Infraumbilical port 10mm
3. Right iliac fossa port 5mm

Photograph 1: Port position for Laparoscopic appendectomy



Photograph 2: Endoloop application at the base of appendix in laparoscopic appendectomy

Thus, 3 ports were made one infraumbilical port for scope (10mm) and camera. Two another small ports were made for 5 mm trocar in right iliac fossa and hypogastric region for hand instruments like forceps, hook, cautery and suction cannula.

#### Observation

Total 60 Laparoscopic appendectomy were performed. Of total, 21(35%) were male patients while 39 (65%) were female patients. Following was the age group in above series of Laparoscopic appendectomy. Youngest 10 years and oldest 42 years.

Table 1: Age wise distribution of study participants

Age Group	Number of Cases	% of cases
Below 10 years	1	1.67
10-20 years	33	55
21-30 years	18	30
31-40 years	6	10
Above 41 years	2	3.33
Total	60	100

11 patients were with recurrent appendicitis. All patients were operated by three port technique. Intra operative findings were of Inflamed Appendix in 51 cases (85%), Pus collection in 3 cases (5%) and Bowel adhesions in 6 cases (10%).

Table 2: Intra Operative findings

Findings	Number of Cases	% of cases
Inflamed Appendix	51	85
Pus collection	3	5
Bowel adhesions	6	10
Total	60	100

In 40 patients (66.66%) Appendix was Retrocaecal, in 16 patients (26.66%) it was Pelvic and in 4 patients (6.68%) it was pre Ileal in position.

Table 3: Position of the Appendix

Position	Number of Cases	% of cases
Retrocaecal	40	66.66
Pelvic	16	26.66
Pre Ileal	4	6.68
Total	60	100

Mean operative time was 40 minutes and none of the patient required conversion to open surgery. Post operative complications were seen in 5 (8.33%) patients. Upper Respiratory tract infection (URTI) in 1 patient, Fever in 2 patients and wound infection in 2 patients. Mean postoperative stay was 3 days. There was no mortality. All patients were able to return to activities of daily life within 7 days after surgery. After two months patients were relatively pain free and no post-operative complications were noted.

Laparoscopic Appendectomy was cost effective as short hospital stay, less post-operative complication and early return to routine work.

#### Discussion

In all cases of Laparoscopic Appendectomy patients epidemiology, mean operative time, post operative stay and complications rates were comparable with referenced studies<sup>(6,7)</sup> and international data<sup>(8)</sup>. Cases of

emergency and elective presentations were managed laparoscopically. No cases required conversion to an open procedure. Difficult intra operative presentation such as localized abscess and gangrenous appendicitis could be managed laparoscopically without a significant change in mean operative time or complications.

The Laparoscopic appendicectomy was coast effective<sup>(9)</sup> as short hospital stay was there and due to small incisions early discharge of the patients was possible. Post operative IV fluid, antibiotics and injections were also required for short duration. Chances of wound infection was also very less. Patient can go to their duty immediately after the discharge so economically was beneficial for the patient.

### Conclusion

Laparoscopic surgery is rapidly growing super speciality. Laparoscopic appendicectomy is a gold standard of surgical management of all cases of appendicitis. A newly established surgical training institute must focus on performing of basic Laparoscopic surgeries such as Lap Appendicectomy on routine basis before performing more advanced surgeries Laparoscopically. It is recommended for any surgeon learning Laparoscopic surgery to perform adequate number of basic Laparoscopic surgeries and

acquire ample experience before performing more difficult surgeries and advanced Laparoscopic maneuvers.

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