

## Laparoscopic assisted appendicectomy vs laparoscopic appendicectomy-a comparative study in a tertiary care centre

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### Abstract:

**Background /objectives:** In recent periods, laparoscopic appendicectomy is the treatment of choice for appendicitis. Other approaches for appendicectomy are open appendicectomy and laparoscopic assisted appendicectomy. In the present study, we are going to compare laparoscopic assisted appendicectomy(LAA)with laparoscopic appendicectomy(LA)

**Materials and methods:** This study is a prospective study of the cases of appendicitis treated between October 2013 to march 2015. Patients treated byLAA and LA were compared using variables like operative time, post operative complications and cost.

**Results:** Totally 78 patients (34male and 44female) are participated in this study. All the patients are diagnosed to have appendicitis and underwent either LAA or LA. In 42 patients LAA was done and in 36 patients LA was done. The mean operating time was 35 minutes in LAA whereas in LA it was 50 minutes. The cost of the procedure for LAA is Rs. 6000 when compared to LA which is Rs 8000. The post operative complications like port site infection and post operative ileus are less in LAA compared to LA.

**Conclusion:** LAA had less cost, less operating time and less post operative complications when compared to LA.

**Keywords:** Laparoscopic appendicectomy, laparoscopic assisted appendicectomy

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### I. Introduction

Most common surgical emergency encountered by general surgeons is appendicitis. Treatment of choice in appendicitis is laparoscopic appendicectomy.<sup>1,2</sup> LA has got more advantages when compared to open appendicectomy. In LA, apart from doing appendicectomy, we can visualise the entire peritoneal cavity and if there is any pathology is then that can be corrected at the same time itself.<sup>3</sup> Disadvantages of LA are high cost<sup>4</sup> and longer operating time<sup>5</sup>.

The main advantages of open appendicectomy are less expensive, shorter operating time and easy to perform. Disadvantages are longer hospital stay and not able to visualise the possible pathology in the peritoneal cavity.

Combining the open appendicectomy and LA, we got LAA. Here, through laparoscopy we can able to visualise the peritoneal cavity and appendix delivered outside. As like open appendicectomy, appendicectomy can be done. This leads to reduction in the cost and shorter operating time.

### II. Material and methods

This was a prospective study conducted in those patients who underwent appendicectomy by two different approaches like LA and LAA. All the patients diagnosed as appendicitis without any complications (abscess and peritonitis). Both LA and LAA were done under general anaesthesia with patient in trendelenburg position with left lateral tilt.

### III. Laproscopic assisted appendicectomy

Pneumoperitoneum created using veressneedle at supraumbilical incision. 10mm camera port introduced. Diagnostic laparoscopy done. If appendix is visualised directly then a 10mm port introduce in right iliac fossa region under vision. If appendix is not visualised directly then accessory port (5mm) is introduced in the left iliac fossa region and then using the babcock's forceps appendix identified and held with same forceps.

After desufflation, the grasped appendix delivered externally along with trocar through the window created in right iliac fossa port site. Mesoappendix was divided and ligated with free silk. Base of appendix tied with chromic catgut and appendix transected. Appendiceal stump put back into the peritoneal cavity through the 10mm right iliac fossa port. Port reinserted and visualisation of appendiceal stump was done intraperitoneally.



Fig.1. LAA – Appendix delivered via RIF port site Fig.2.LAA – Division of mesoappendix

#### **IV. Laparoscopic appendicectomy**

Laparoscopic appendicectomy done in the following manner, Throughsupraumbilical incision, pneumoperitoneum created using Veress needle. 10mm camera port introduced. Two working ports 5mm port introduced in the left iliac fossa and another 5mm port introduced in the suprapubic region. Diagnostic laparoscopy done. Appendix identified, tip of appendix held with a grasper and using bipolar forceps mesoappendix divided up to the base of appendix. Appendix transected after applying endoloops. Appendix specimen delivered through 5mm left iliac fossa port. If it is not possible then 5mm port was changed to 10 mm port and then delivered. Port sites were closed.

#### **V. Results**

This study was done in tertiary care hospital with total number of patients of 78. Two procedures like LAA and LA were compared. Totally 78 patients underwent appendicectomy in which LAA was done in 42 patients and LA was done in 36 patients. Variables like operating time, post operative complications and cost procedure were analysed. The mean operating time for LAA was 25 minutes and for LA it was 50 minutes. Cost for LAA was Rs. 6000 and for LA was Rs. 8000.<sup>6</sup> Cost includes from admission to discharge. There were no complications in LAA group whereas in LA group, one patient developed port site infection.

#### **VI. Discussion**

In this study, in LAA group operating time is less compared with LA group, first diagnostic lap done followed by immediate delivery of appendix externally and appendicectomy done as like open method. In LA group, it takes more time since appendix identification, dissection, division of mesoappendix using energy source, division of appendix by endoloop and then delivering the specimen externally.<sup>7,8</sup> Cost difference the LAA and LA is Rs. 2000 is due to usage of endoloop in LA and other suture materials.

#### **VII. Conclusion**

The conclusion of this study is LAA had less cost, less operating time and less post operating complications than LA.

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