

## A COMPARATIVE STUDY BETWEEN SINGLE INCISION MULTIPOINT LAPAROSCOPIC APPENDICECTOMY AND CONVENTIONAL LAPAROSCOPIC APPENDECTOMY

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### ABSTRACT

#### BACKGROUND

This is a comparative study between single incision multiport and conventional laparoscopy with triport in appendectomy.

#### OBJECTIVES

The objectives of this study were to compare procedures duration, postop recovery time, pain, complications, cosmesis.

#### PLACE OF STUDY

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#### METHOD OF COLLECTING DATA

A randomised control study was done by alternation with sample size of 50, which divided into two groups (Study group 25 and control group 25) and study period is from April 2012 to September 2014.

#### INCLUSION CRITERIA

All patients with acute appendicitis diagnosed on basis of Clinical Examination, Radiological Correlation and Leucocytosis, presenting above the age of 18.

#### EXCLUSION CRITERIA

Patient with Phlegmon, Mass, Peri-Appendicular Abscess, Diffuse Peritonitis, Age <18, Pregnancy.

#### RESULT

Among 62 patients, a randomized control study of 50 patients who were divided into two groups (Study group 25 and control group 25). The study was done based on the monitoring parameters like,

1. Post-operative pain after 6 hours, 12 hours and 24 hours.
2. Duration of the procedure.
3. Surgical site infection.
4. Patient satisfaction regarding the scar.

#### CONCLUSION

Patient in single incision laparoscopy group show less post-operative pain in the first 6 and 12 hours compared to the conventional laparoscopy group, but no difference was noticed between the two groups after 24 hours.

No significant difference in operating times was noted between the procedures. One patient in 25 who underwent single incision laparoscopy had wound infection, but no wound complications were noted in the conventional appendectomy group. Patients who underwent single incision laparoscopy are happier with scar when compared with conventional laparoscopy group. No difference noted in the duration of post-operative hospital stay.

#### KEYWORDS

Single Incision, Laparoscopic Appendectomy, Multiport, Appendicitis, Appendectomy, Conventional Laparoscopy.

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#### INTRODUCTION

Recent advances in laparoscopic instrumentations have made it possible to perform intra-abdominal operations entirely through a small incision that can be hidden within the

umbilicus, which provides better cosmetic results, decreased stay in hospital and better satisfaction to the patients.

Single incision laparoscopic surgery is a major breakthrough in minimally invasive surgeries involving access to the abdomen through a specialized port or through an incision, which appears single externally but fascially has multiple punctures.

The prospective comparisons of single incision and conventional laparoscopy are lacking. There are only ongoing trials available, some of which will be complete prior to this study's conclusion

#### AIMS AND OBJECTIVES

To compare the outcome of single incision multiport

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laparoscopic appendectomy vs. conventional laparoscopic appendectomy in terms of:

- Patient Recovery Time.
- Post-operative Pain.
- Wound Complications.
- Duration of the Procedure.
- Patient Satisfaction As Regards Cosmetics.

## MATERIALS AND METHODS

A randomized control study was done by alternation with sample size of 50, which divided into two groups (Study group 25 and control group 25) and study period is from April 2012 to September 2014 in Chennai Medical College Hospital and Research Centre, Irungalur, Trichy.

## CRITERIA

### Inclusion Criteria

All patients with acute appendicitis diagnosed on basis of clinical examination, radiological correlation and leucocytosis, presenting at SRH above the age of 18.

### Exclusion Criteria

Patient with Phlegmon, Mass, Peri-Appendicular Abscess, Diffuse Peritonitis, Age <18, Pregnancy.

## RESULT

In our study only 5 patients have post-operative pain in first 6 to 12 hours after the procedure in single incision laparoscopy group. But no significant difference was noted after 24 hours.

No significant difference noted for mean operative time for single incision laparoscopy group and conventional laparoscopy group. Two patients in the single port group had an asymptomatic periumbilical haematoma. One patient had a haematoma around the surgical wound, which did not require treatment. No patient in single incision laparoscopy group had incisional hernia. Patient in single incision laparoscopy group are very happy regarding post-operative scar when compared with conventional laparoscopy group.

## DISCUSSION

In our study total number of 62 patients presented with acute appendicitis in which six patients were diagnosed as appendicular mass, three patients diagnosed with appendicular abscess and three patients were lost to follow-up, hence they were excluded from the study. A randomized control study was done by alteration with sample size of 50, which divided into two groups (Study group 25 and control group 25) and study period was between April 2012 to September 2014.

The following parameters were monitored following the surgery.

1. Post-operative pain after 6 hours, 12 hours and 24.
2. Duration of the procedure.
3. Surgical site infection.
4. Patient satisfaction regarding scar.

In our study we observed less postoperative pain in first 6 and 12 hours after the procedure in single incision laparoscopy group than conventional laparoscopy group. But no significant difference was noted after 24 hours. Dolores et al<sup>(1)</sup> say that significant difference was observed for post-operative pain with less pain reported in single incision group, Jieding et al<sup>(2)</sup> says that single incision laparoscopy surgery has

the advantage of less post-operative pain when compared with conventional laparoscopy group, Bong-Hyeon Kye et al<sup>(3)</sup> say that pain score on the visual analogue scale on postoperative day 1 was significantly lower in the single-incision group than in the three-port group.

There was no significant difference noted in the duration of the procedure, Jin A Lee et al<sup>(4)</sup> says that no significant difference noted for mean operative time for single incision laparoscopy group and conventional laparoscopy group. Study done by Zheng Pan et al<sup>(5)</sup> says that study did not show any difference with operative time.

One patient in single incision laparoscopy group had wound infection, which was treated with antibiotics and re-admission was not required, Dolores et al<sup>(1)</sup> says that three patients in the single port group had an asymptomatic periumbilical haematoma, which did not require admission and resolve spontaneously. In conventional laparoscopy group, 2 patients had a haematoma around the surgical wound in the lower left quadrant, which did not require treatment. Study done by Zheng Pan et al<sup>(5)</sup> says that one patient in single incision laparoscopy group had incisional hernia on follow-up.

Patient in single incision laparoscopy group are very happy regarding post-operative scar when compared with conventional laparoscopy group Gasior AC et al<sup>(6)</sup> says that single incision laparoscopy surgery express superior scar assessment, Buckley FP et al<sup>(7)</sup> says that patients are more happy regarding post-operative scar when compared with conventional laparoscopy group.

## PROFORMA

Name:	Age:	Sex:	
	Date:		
Address:	6 hours	12 hours	24
hours			
Pain:			
1. No Pain			
2. Just noticeable Pain			
3. Mild Pain			
4. Uncomfortable Pain			
5. Annoying Pain			
6. Just Bearable			
7. Moderate Pain			
8. Strong Pain			
9. Severe Pain			
10. Horrible Pain			
11. Worst Pain			

## Duration of Procedure

### Conversion to Conventional Laparoscopy or Open Laparotomy Wound Infection:

### Patient's Satisfaction as Regarding to Scar as Per a Standard Scaling System

0, 1, 2: Unhappy.  
3, 4, 5, 6: Somewhat Happy.  
7, 8, 9, 10: Happy.

## CONCLUSION

Patient in single incision laparoscopy group show less post-operative pain in the first 6 and 12 hours compared to the conventional laparoscopy group, but no difference was noticed between the two groups after 24 hours. No significant difference in operating times was noted between the procedures.

One patient in 25 who underwent single incision laparoscopy had wound infection, but no wound complications were noted in the conventional appendectomy group. Patients who underwent single incision laparoscopy are happier with scar when compared with conventional laparoscopy group. No difference noted in the duration of post-operative hospital stay.

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