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Original Research Article

A comparative study between single incision multiport laparoscopic appendicectomy and conventional laparoscopic appendicectomy in tertiary care hospital, Kanchipuram District, Tamil Nadu, India

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ABSTRACT

Background: To compare the outcome of single incision multiport laparoscopic appendectomy versus conventional laparoscopic appendicectomy in terms of patient recovery time, post-operative pain in Karpaga Vinayaga Medical College and Hospital, Kanchipuram District, Tamil Nadu, India.
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 August 2012 to September 2014.
Results: 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.
Conclusions: One patient in 25 who underwent single incision laparoscopy had wound infection, but no wound complications were noted in the conventional appendicectomy group. Patients 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: CON, SILS

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.[1]

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.[2]

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.[3]

The aim was to compare the outcome of single incision multiport laparoscopic appendectomy vs conventional laparoscopic appendicectomy in terms of patient recovery time, post-operative pain, wound complications, duration

of the procedure and patient satisfaction as regards cosmesis.

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 August 2012 to September 2014.

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.

RESULTS

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. Performing laparoscopy is time consuming procedure.

Table 1: Post-operative statistics.

Group	N	Mean	Std. deviation	Std. mean error	P-valve
Pain score 6 hours					
SILS appendicectomy	25	1.00	0.000	0.000	0.038
CON Lap appendicectomy	25	1.16	0.374	0.374	0.043
Pain score 12 hours					
SILS appendicectomy	25	1.36	0.490	0.098	0.001
CON Lap appendicectomy	25	1.88	0.332	0.066	0.001
Pain score 24 hours					
SILS appendicectomy	25	1.00	0.000	0.000	0.000
CON Lap appendicectomy	25	1.00	0.000	0.000	0.000

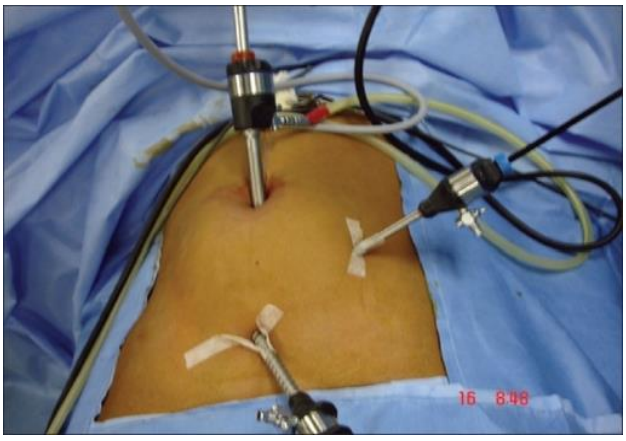

Figure 1: Conventional laparoscopic appendicectomy-intra operative picture.

One patient in 25 who underwent single incision laparoscopy had wound infection, but no wound complications were noted in the conventional appendicectomy group.

Patients underwent Single incision laparoscopy are happier with scar when compared with conventional laparoscopy group.

No difference was noted in the duration of post-operative hospital stay.

Recovery was faster in laparoscopy comparing to the other procedures followed nowadays. This study suggested about the newer modalities available for future generation.

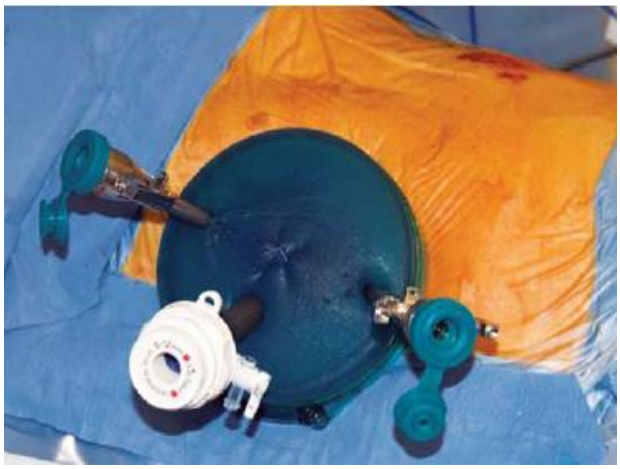

Figure 2: Single incision multiport laparoscopic appendicectomy-intra operative picture.

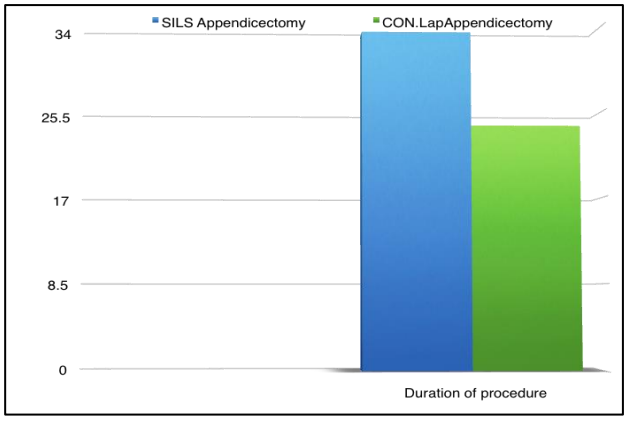

Figure 3: Graphic comparison.

figure 4: Intra operative appendicectomy picture.

Figure 5: Post-operative picture showing small scar.

DISCUSSION

In present study total number of 62 patients presented with acute appendicitis in which six patients was 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 August 2012 to September 2014.

The following parameters were monitored following the surgery

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

In present study, there was no significant difference noted in the duration of the procedure. Dolores et al reported that significant difference was observed for post-operative pain with less pain reported in single incision group.[1]

Jieding at al reported that single incision laparoscopy surgery has the advantage of less post-operative pain when compare with conventional laparoscopy group.[2]

Kye at al reported that pain score on the visual analog scale on postoperative Day 1 was significantly lower in the single-incision group than in the three-port group.[3]

Lee AJ at al reported that no significant difference noted for mean operative time for Single incision laparoscopy group and conventional laparoscopy group.[4]

One patient in single incision laparoscopy group had wound infection which was treated with antibiotics and re admission was not required. In conventional laparoscopy group, 2 patients had a hematoma around the surgical wound in the lower left quadrant, which did not require treatment. Study done by Pan Z at al showed that one patient in single incision laparoscopy group had incisional hernia on followup.[5] Study done by Pan Z at al did not show any difference with operative time.

Patient in single incision laparoscopy group were very happy regarding post-operative scar when compared with conventional laparoscopy group. Gasior AC at al reported that single incision laparoscopy surgery express superior scar assessment.[6]

Buckley FP et al reported that patients were happier regarding post-operative scar when compare with conventional laparoscopy group.[7]

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.

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Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

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