



STAPLES VS SUTURES FOR SKIN CLOSURE IN LAPAROSCOPIC CHOLECYSTECTOMY AND LAPAROSCOPIC APPENDICECTOMY

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ABSTRACT

Minimally invasive procedures are becoming the mainstay treatment nowadays for various diseases like Laparoscopic Cholecystectomy, Laparoscopic Appendicectomy and Laparoscopic Hernia repairs. The skin closure in laparoscopic surgeries is commonly done either by sutures or staples. The study aims to compare clinical outcome of skin closure by monofilament Nylon suture and stainless skin stapler in Laparoscopic procedures.

KEYWORDS

laparoscopic, cholecystectomy, appendicectomy, suture, stapler.

INTRODUCTION

At present, many procedures which were conventionally performed using open approach are now performed with minimally invasive approaches which is becoming the mainstay treatment nowadays. Cosmesis and scar after surgeries is becoming an important factor for deciding the type of surgery. Laparoscopic surgeries for hernia are becoming more and popular. With advancement in minimally invasive procedures, skin cosmesis plays an important role. The skin closure in laparoscopic surgeries is commonly done either by sutures or staples. The study aims to compare clinical outcome of skin closure by monofilament Nylon suture and stainless skin stapler in Laparoscopic procedures.

Aim

To compare the clinical outcome of skin closure by monofilament Nylon suture and stainless steel skin stapler in Laparoscopic Cholecystectomy and Laparoscopic Appendicectomy.

METHODS

Ethics

The study was approved by the Institutional Review Board and Research Ethics Committee of Mahatma Gandhi Hospital, Jaipur and informed consent was taken from patients.

Patient Data

The study was conducted as a time-bound prospective cohort study and included patients who underwent laparoscopic cholecystectomy and laparoscopic appendicectomy at Mahatma Gandhi Hospital, Jaipur, between April 2024 and October 2024. The inclusion criteria included patients diagnosed with cholecystitis and appendicitis. The exclusion criteria included contaminated cases, cases posted for emergency surgery, and patients with an impending risk of perforation.

Clinical and demographic data collected included age, sex, type of surgery, nutritional status, any intra-operative complication, time of surgery, post-op complications

After the specimen was extracted out which was gall bladder in laparoscopic cholecystectomy or appendix in laparoscopic appendicectomy, port closure was done using absorbable sutures and skin closure was done either by 2-0 monofilament nylon suture (Ethilon) or stainless-steel staples (Ethicon). The time taken for skin closure was recorded. The wounds were assessed on Post-op day 1 (POD-1), on POD-10 for suture removal and POD-30 for pain, wound infection and surgical scar.

Parameters Assessed

1. Time taken for skin closure
2. Post-op wound infection if any
3. Scar formation

RESULTS

The average time for skin closure was 147.2 seconds in 15 patients of sutures group vs 61.1 seconds in 15 patients of stapler group in Laparoscopic Cholecystectomy and 118.4 seconds in 15 patients of sutures group vs 39.2 seconds in 15 patients of stapler group in Laparoscopic Appendicectomy ($p < 0.001$).

CONCLUSIONS

Skin closure with stapler requires significantly lower time than sutures with no statistically significant difference in post-op pain, pain during removal, wound infection and scar are same in both the groups.

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