ONLINE ISSN :3007-309X
PRINT ISSN :3007-3081

Journal of Medical & Health Science Review

COMPARISON OF FISTULECTOMY VS LIFT PROCEDURE FOR ANAL FISTULA MANAGEMENT

Syed Ali Mehsam[1], Syeda Pakiza Batool[2], Adeel Hussain[3], Mansab Ali[4], Shahid Rasul[5]

[1]Postgraduate Trainee, Jinnah Postgraduate Medical Center, Karachi, Pakistan Department of General Surgery, Email: sam.naqvi@hotmail.com

[2]Intern General Surgery, Jinnah Postgraduate Medical Center, Karachi, Pakistan

Department of General Surgery, Email: paki.tz@hotmail.com

[3]Postgraduate Trainee, Jinnah Postgraduate Medical Center, Karachi, Pakistan

Department of General Surgery, Email: adeelhussain80@hotmail.com

[4]Postgraduate Trainee, Jinnah Postgraduate Medical Center Karachi, Pakistan,

Department of General Surgery, Email: mansab82@yahoo.com

[5]Professor of Surgery, Jinnah Postgraduate Medical Center, Karachi, Pakistan,

Department of General Surgery, Email: drrasull@hotmail.com

ARTICLE INFO

Keywords: LIFT, Anal Fistula, Fistulectomy.

Corresponding Author:

Syed Ali Mehsam, Department of General Surgery,

Email: sam.naqvi@hotmail.com

ABSTRACT

Background: Although anal fistulae are benign, the condition can still negatively influence a patient's quality of life. Despite its long history and prevalence, anal fistula management remains one of the most challenging and controversial topics in colorectal surgery today. This study aimed to compare the management of anal fistula with LIFT procedure and Fistulectomy.

Methodology: A RCT was conducted in a single surgical unit of a tertiary teaching medical college hospital in Karachi from September 2010 through April 2016. A total of 1188 patients with anal fistula were included out of taken sample, Group A (LIFT): 610 patients (70.5% male, 29.5% female); Group B (Fistulectomy): 578 patients (64.9% male, 36.1% female). All patients were followed up for a total duration of twelve weeks during the postoperative period. Patients were followed up at weekly intervals for the initial 6 weeks and at 4-week intervals for another 6 months, and then 6 months for another 5 years. During each follow-up visit, the patient was assessed for postoperative pain, wound complication, and anal incontinence.

Results: The mean age of the patients in group A was 41.11 ±7.49 while the mean age of the patients in group B was 45.03 ±7.07 (p-value 0.005). There were 70.5% males and 29.5% Females in group A, whereas 64.9% males and 36.1% female patients were in group B. Comparison of mean pain score showed statistically significant difference in group A and B (p-value <0.05) with higher frequency of anal incontinence was in group B as compared to group A 1 (p-value 0.352).

Conclusion: LIFT is an inexpensive and safe procedure that provided primary healing of anal fistula better than fistulectomy.

INTRODUCTION

Anal fistula is part of the spectrum of perianal sepsis. It is a chronic condition that may present de novo or after an acute anorectal abscess. Anal fistula causes a variety of prolonged or intermittent symptoms including pain, discharge, and social embarrassment.[1] Its prevalence is reported as 1-2 per 10,000 of the population in European studies,[2,3] but this is probably an underestimate, with many patients being reluctant to present to medical services. Men are twice as likely to be affected, and it most commonly presents in the third, fourth, and fifth decades, with a peak around 40 years of age. The treatment options for anal fistula are varies and none is universally successful or without risk.[4] Most recently, the introduction of the ligation of the intersphincteric fistula tract (LIFT) procedure has sparked interest with good short-term results. This procedure, first proposed by Rojansakul in 2007, focuses on the ligation of the intersphincteric tract of the fistula, and can be applicable for both complex and recurrent fistula.[5] The success of LIFT procedure is reported to be 75%-80%.[6-8] Another surgical technique for anal fistula includes fistulectomy.[9] A fistulectomy involves complete excision of the fistulous tract, thereby eliminating the risk of missing secondary tracts and providing complete tissue for histopathological examination.[10] The present study was a randomized controlled trial that aimed to compare the fistulectomy to the LIFT in the management of anal fistula.

METHODS

This study was a randomized, two-arm, open-label, controlled trial and was conducted in a single surgical unit of a tertiary teaching medical college hospital in Karachi from September 2010 through April 2016. Patients admitted in surgery unit 1 with a clinical diagnosis of a simple anal fistula were included in the study. A total of 1188 patients were included; 610 patients were enrolled in group A (LIFT) and 578 patients were enrolled in group B (Fistulectomy). Inclusion criteria were as follows: low trans-sphincteric (fistula tract involving less than the lower third of the anal sphincter), inter sphincteric fistula, and subcutaneous fistula; a single internal and a single external opening; the absence of a secondary tract. Patients with a recurrent fistula, patients with associated co-morbid conditions such as anal fissure, hemorrhoids, chronic colitis, etc., and patients refusing consent for inclusion in study were excluded. All patients included in the study were interviewed to ascertain their clinical histories, including presenting symptoms, duration

of symptoms, and history of anorectal sepsis, previous surgery, and chronic illness. Inquiries were made to assess anal continence in each patient. All patients underwent detailed clinical examination to assess general health, presence of systemic disease, and anorectal pathology. The examination included perineal inspection, palpation, digital rectal examination, and proctoscopic evaluation. The distance of the external opening from the anal verge was measured using a plastic scale at the time of clinical examination. Informed consent was obtained from patients for participation in the study. Ethical clearance was obtained from the institutional ethical board. The patients were divided randomly with the help of computer-generated random numbers into two groups with respect to operative procedure: the group that underwent a LIFT (group A) and the group that underwent a fistulectomy (group B). The operating time for the procedure was calculated from the start of the dye test to the beginning of dressing of the postoperative wound. Patients in both groups were administered ciprofloxacin and metronidazole as perioperative antibiotics for a total duration of five days. Diclofenac sodium (50 mg twice a day) was prescribed as an analgesic for a total duration of 3 days. The patients were discharged on the first postoperative day. The patients were advised regarding oral medication, maintenance of local hygiene, sitz bath after defecation, dressings, and regular follow-ups. The initial postoperative assessment was undertaken at twenty-four hours following surgery. The severity of postoperative pain was assessed on a scale of 0 to 10 with help of the visual analogue scale (VAS). Patients were asked about anal incontinence. Development of incontinence was assessed using the three-point Likert scale (0, never; 1, sometimes; 2, always) according to inability to distinguish between gas and stool, difficulty in holding gas, and soiling of undergarments.[11] All patients were followed up for a total duration of twelve weeks during the postoperative period. Patients were followed up at weekly intervals for the initial 6 weeks and at 4-week intervals for another 6 months and then 6 monthly for another 5 years. During each follow-up visit, the patient was assessed for postoperative pain, wound complication, and anal incontinence. Few patients were lost during the follow-up period.

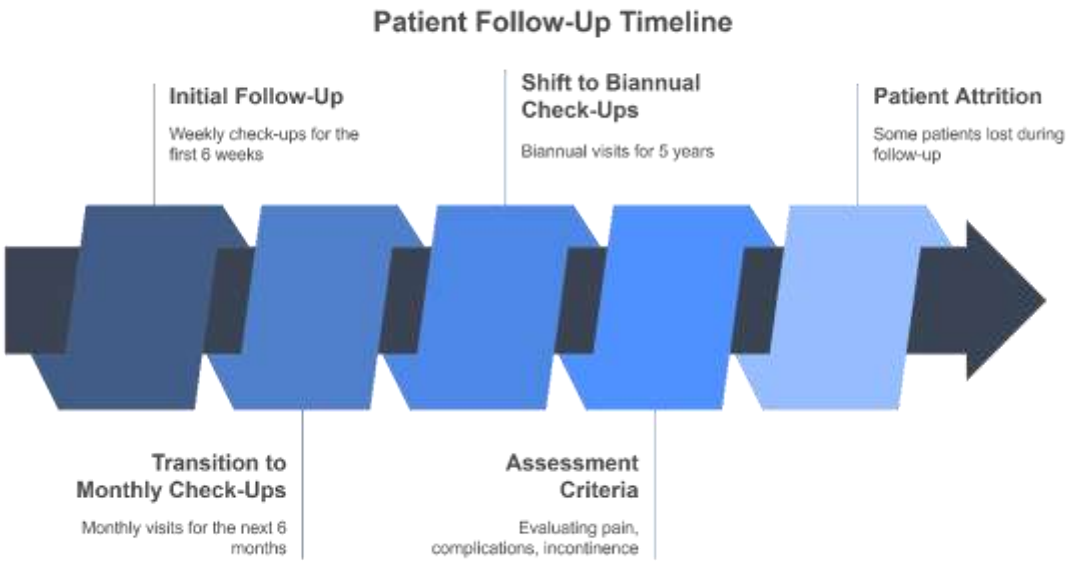

Figure 1 Patient Follow-Up Timeline

Statistical package for Social Sciences (SPSS) version 21 was used to analyze the data. Qualitative data from the two groups were compared using the chi square test or Fischer's exact test while quantitative data were compared using the independent t-test.

RESULTS

Baseline characteristics of the patients is shown in table 1. Mean age of the patients in group A was 41.11 ±7.49 while mean age of the patients in group B was 45.03 ±7.07 (p-value 0.005). Mean duration of symptoms in group A was 7.15 ±0.32 months while mean duration of symptoms in group B was 7.23 ±0.26 (p-value 0.134). Group A (LIFT): 610 patients (70.5% male, 29.5% female); Group B (Fistulectomy): 578 patients (64.9% male, 36.1% female). Comparison of mean pain score at 24 h, 1 week, 2week, 3week, 4week, 8 week and 12 week showed statistically significant difference in group A and B (p-value <0.05) (Table 2).

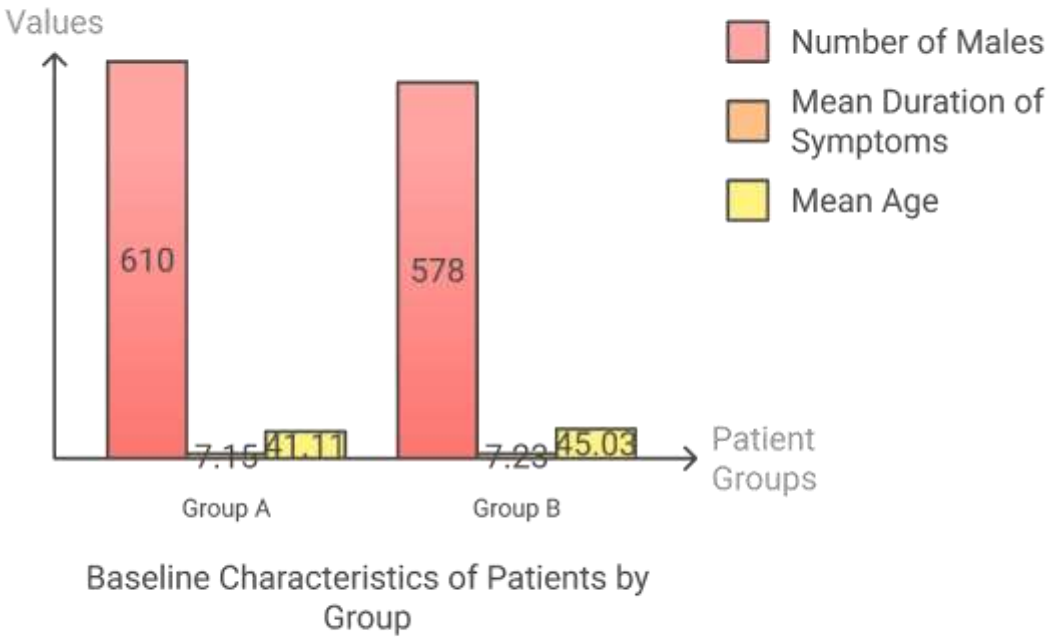

Figure 2 Patient Characteristics Comparison between groups

Frequency of anal incontinence was insignificantly higher 3 (75%) in group B as compared to group A 2 (25%) (p-value 0.352). Among these, wound seepage was observed in 4 (100%) patients in group B whereas none of the patients had wound seepage in group A. Frequency of wound infection was significantly higher 36 (78.3%) in group B as compared to group A 10 (21.7%) (p-value 0.001). Similarly, frequency of delayed healing was also found significantly higher in group B 42 (75%) as compared to group A 14 (25%) (p-value 0.001) (Figure 1 & 2). based on the given complications (such as wound infection, delayed healing, and anal incontinence), we can infer that Group B likely has a higher recurrence rate than Group A due to the increased complications.

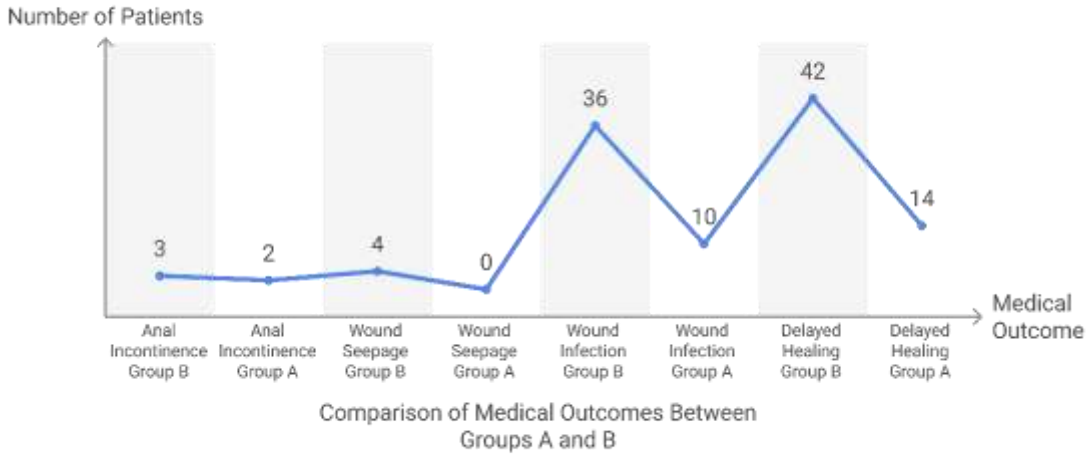

Figure 3: Comparison of Medical outcome Between Groups

Recurrence Rate for LIFT Group

Recurrence Rate = Recurrence Rate = (Total patients/Patients who did not heal) × 100

= (610−432/610) × 100= (178/610) × 100 = =29.4%

For the Fistulectomy group (Group B), the recurrence rate healing rate in LIFT was significantly higher, it suggests that recurrence in Fistulectomy (Group B) is likely higher than 29.4%.

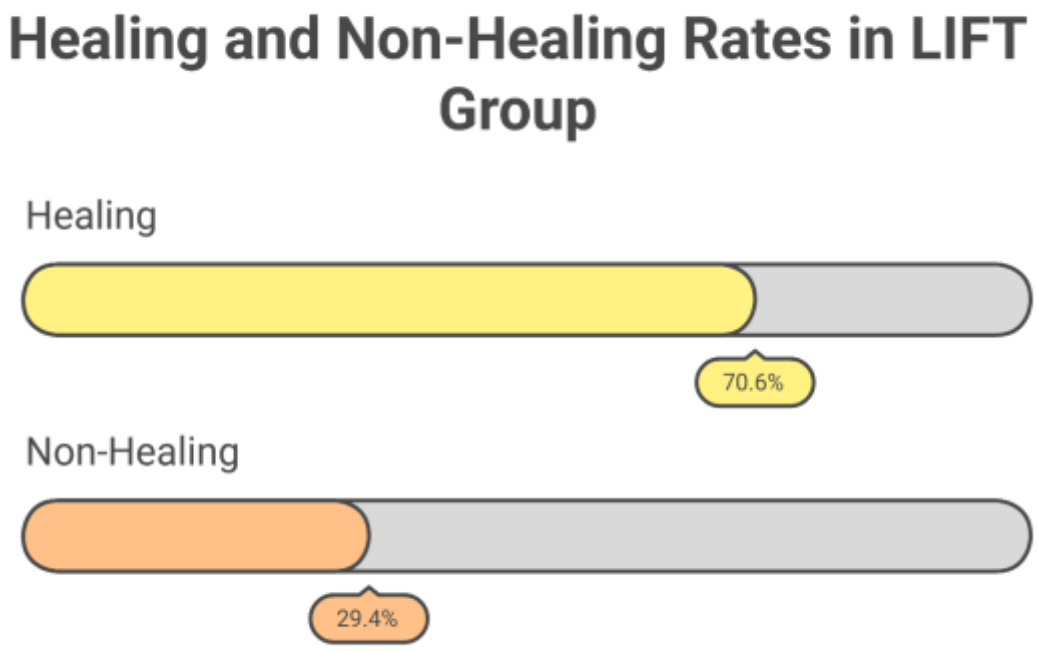

Figure 4 Recurrence rate chart

DISCUSSION

The findings of this study showed that mean pain score was higher in fistulectomy group as compared to patients presented in LIFT group with significant differences in the mean pain score of the patients in both groups. Our results are supported by previous comparative studies on management of anal fistula with fistulectomy.[12,13]

Mean follow-up time in this study was 12 weeks. Studies reported that the follow-up period varied among the series (average = 10.3 months, range: 4 weeks-26 months), and time to recurrence was reported to be between four weeks and 8 months. There is no apparent correlation between the length of follow-up and the healing rate.[14] In the original study by Rojanasakul et al[15], patients were assessed 1 week after surgery and then every two weeks until healing. In the study by Abcarian et al[16], patients were clinically examined within the first two post-operative weeks and thereafter at intervals of 2-4 weeks. Patients were examined under general or spinal anesthesia when failure was suspected. This procedure was also followed in the report by Liu et al if symptoms worsened or persisted 6 months after surgery with regular visits planned at 1, 2 and 6 weeks and at 3, 6, 12, 18, 24, 30, 36,

42, 48, 54 and 60 months after surgery.[17] In 2012 Tan et al[18] verified failures by endoanal ultrasound, preceded by reviews 1-2 weeks after surgery and at intervals of 2-4 weeks until healing. In the first report by Tan et al from 2011[19], the first visit was scheduled for two weeks after surgery. Healing rate was also found significantly higher in LIFT group as compared to fistulectomy group. Similar results were reported in a recent systematic review in which 432 out of 610 patients had a successful outcome after the LIFT procedure. This gives an average healing rate of 70.6% (range: 40-94.4%). Apart from two incidents of persistent anal pain[20], no major post-operative complications including de novo incontinence was reported, however baseline end post-operative continence was not systematically assessed. In this study, frequency of anal incontinence was also higher in fistulectomy group as compared to LIFT. This finding matched with a study conducted by Kronborg et al.[9] However, contrary to this Jain-et-al and Chalya-et-al found no anal incontinence in their study.[1] The prevalence of wound infection was significantly higher in the fistulectomy group as compared to the LIFT group. Similarly, the prevalence of delayed healing was also found to be significantly higher in the fistulectomy group as compared to the LIFT group. However, previous studies showed no statistically significant differences in the rates of postoperative wound infection and postoperative hospital stay between the two groups, which is consistent with other trials. [21,22]

CONCLUSION

LIFT is an inexpensive and safe procedure that provided primary healing of anal fistula better than fistulectomy. Moreover, the procedure is easy to learn and has very few complications.

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Table 1: Baseline characteristics of the patients (n=1188)

Variables	Group		p-value	95% CI
	A (n=610)	B (n=570)		
Age, years	41.11 ±7.49	45.03 ±7.07	0.005	-6.54 to -1.22
Duration of symptoms, months	7.15 ±0.32	7.23 ±0.26	0.134	-0.19 to 0.02

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Table 2: Comparison of pain score in two groups							
Mean VAS Score	**24 h**	**1 wk.**	**2 wks.**	**3 wks.**	**4 wks.**	**8 wks.**	**12 wks.**
Group A (n=610)	3.24 ±0.15	1.29 ±0.30	0.89 ±0.20	0.39 ±0.30	0.39 ±0.40	0.00	0.00
Group B (n=570)	4.16 ±0.12	1.96 ±0.12	1.26 ±0.13	0.430 ±0.13	0.12 ±0.07	0.04 ±0.10	0.05 ±0.09
p-value	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
***Independent t-test applied**							

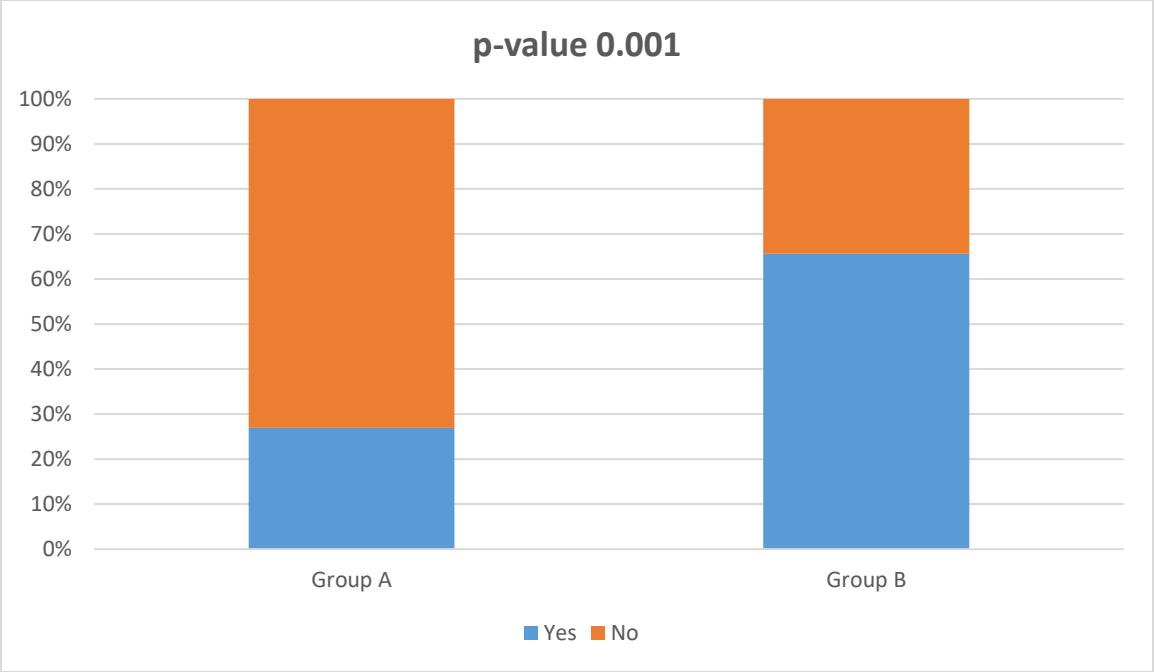

Figure 1: Comparison of wound infection with respect to Group

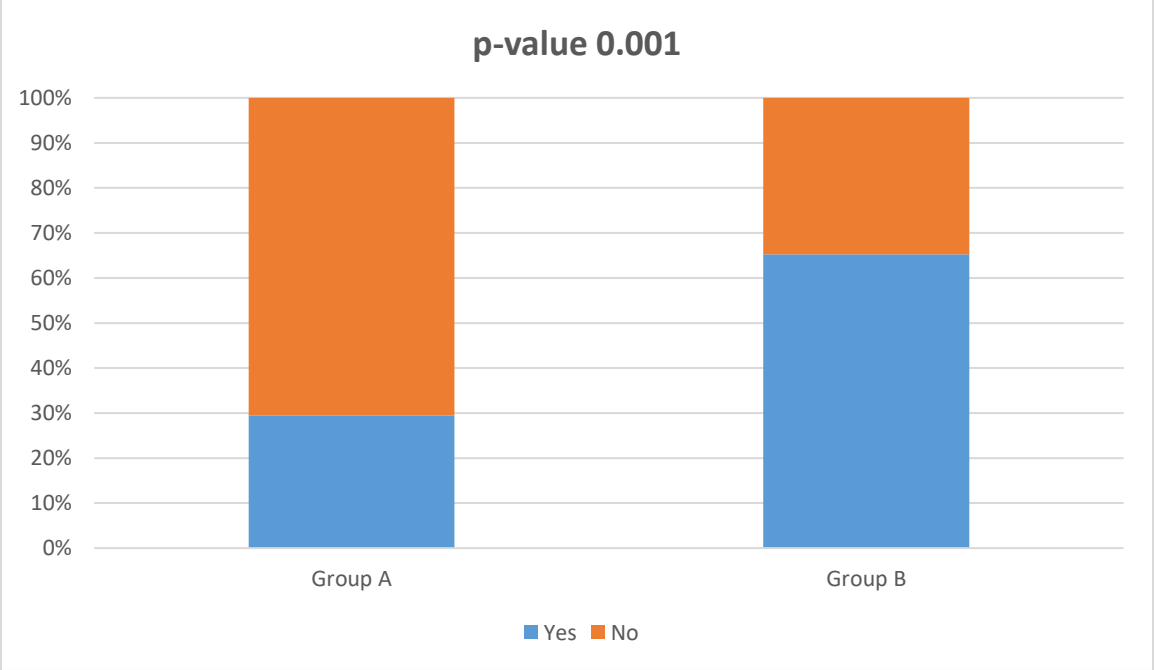

Figure 2: Comparison of wound healing with respect group