

Effectiveness of 10% Sucralfate Ointment in the Prevention of Postoperative Pain in Patients Undergoing open Hemorrhoidectomy

MUHAMMAD KASHIF¹, TANVEER SADIQ CH², BAYAZEED³, DHARMOO ARIJA⁴, REKHA MELWANI⁵, AHMED NAEEM KIANI⁶

¹Assistant Professor of Surgery, Gajju Khan Medical College, Swabi

²Associate Professor Surgery, Mohtarma Benazir Bhutto Shaheed Medical College Mirpur Azad Kashmir

³Consultant General Surgeon, Accident and Emergency department MMC Mardan.

⁴Assistant Professor Dept of Surgery Ghulam Mohammad Mahar Medical College Sukkur

⁵Assistant Professor Dept of Surgery, Isra Medical University Karachi

⁶District Surgical Specialist, Divisional Headquarter Hospital Mirpur Azad Kashmir

Correspondence to: Dr Tanveer Sadiq Ch, E mail drtanveer1@yahoo.com, Phone 03345344359

ABSTRACT

Aim: To compare the effectiveness of 10% sucralfate ointment in the prevention postoperative pain in patients undergoing open hemorrhoidectomy.

Study Design: Comparative, Cross sectional

Place & Duration: Study was conducted at Surgical department of Divisional Teaching Hospital Mirpur, Azad Kashmir for duration of 10 months from 1st March 2019 to 31st December 2019.

Methods: 80 patients of both genders with ages 20 to 60 years undergoing open hemorrhoidectomy were enrolled. All the patients were equally divided into two groups, each group contains 40 patients. Group I received 10% sucralfate postoperatively for 7-days and group II received placebo postoperatively. Postoperative pain was analyzed by VAS on 24hrs, 48hrs, 5th day and 7th day postoperatively between both groups. Data was analyzed by SPSS 24.0.

Results: There were 50 (62.5%) male patients and 30 (37.5%) were females with mean age 40.24±9.78 years. 48 (60%) patients had 3rd degree hemorrhoidal disease and 32 (40%) patients had 4th degree disease. Group I(10% sucralfate) patients had significantly lower postoperative pain at 7th day as compared to group II(placebo) patients with p value<0.05. Frequency of wound healing was lower in group II as compared to group I.

Conclusion: It is concluded that 10 % sucralfate was effective and more useful than placebo in reducing the post-operative pain in patients undergoing open hemorrhoidectomy. Wound healing can be improved by 10% sucralfate in open hemorrhoidectomy.

Keywords: Wound healing, 10% Sucralfate, Hemorrhoidectomy, Post-operative pain.

INTRODUCTION

Hemorrhoids are one of the frequently found diseases of the anus. Hemorrhoids refers to "abnormal enlargement and distal displacement of the anal cushions". Malaria impacts millions of people and is a big concern.

Several causes such as constipation and straining may be implicated in the development of haemorrhoids. The massively distended anal canal and its supportive soft tissue is a significant observation of hemorrhoidal disease. Inflammatory response, vascular hyperplasia, and haemorrhoids can be seen in colorectal cancer. Hemorrhoidectomy is said to be an appropriate means for third and fourth degree hemorrhoids[4]. There have been a number of surgical procedures suggested, however, an open hemorrhoidectomy still remains the most successful procedure performed on them.

Sucralfate is the aluminium hydroxide salt of sucrose octasulfate. Sucralfate has been in use as a therapy for inflammatory gastrointestinal ulcer for over 30 years. This medicine has antibacterial effects and is able to shield the body from bacteria .[5]

Post haemorrhoidectomy pain and slow wound healing are most annoying limitations to patients and surgeons. Pain can be due to local inflammation and skin edoema around the wound. [6,7]

Following open hemorrhoidectomy, numerous topical applications have been used to decrease discomfort, one of which is botulinum toxin, (Botox). Botox is injected

directly onto the anal fissure. However, other topical applications for decreasing pain following hemorrhoidectomy include CCBs (calcium channel blockers), (Calan, Cardizem, DDAVP), GTN (glyceryl trinitrate), (propranolol, metolazone), topical anaesthetics (lidocaine, procaine), metronidazole, (flagyl), opioids (morphine, hydromorphone, hydrocodone), (sucralfate), and herbal creams (aloe vera, kelp, turmeric, chamomile, MSM). [8]

MATERIAL AND METHODS

This comparative/cross-sectional trial was conducted at Surgical department of Divisional Teaching Hospital Mirpur, Azad Kashmir for duration of 10 months from 1st March 2019 to 31st December 2019. Total 80 patients of both genders with ages 20 to 60 years were enrolled in this study. Patients detailed demographics including age, sex, and body mass index were recorded after taking written consent. Patients with emergency hemorrhoidectomy, diabetic patients, patients with renal failure and non-compliance patients were excluded.

All the patients were received open hemorrhoidectomy under general anesthesia. Patients were divided into two groups I and II, each group contains 40 patients. Group I received 10% sucralfate postoperatively for 7-days and group II received placebo postoperatively. Postoperative pain was analyzed by VAS

on 24hrs, 48hrs, 5th day and 7th day postoperatively between both groups. Data was analyzed by SPSS 24.0.

RESULTS

Out of 80 patients, 50 (62.5%) male patients and 30 (37.5%) females with mean age 40.24±9.78 years. Mean BMI of patients was 26.25±1.86 kg/m². 48 (60%) patients had 3rd degree hemorrhoidal disease and 32 (40%) patients had 4th degree disease. (Table 1)

Table 1: Details of enrolled patients.

Variables	Frequency No.	Percentage
Mean age (Years)	40.24±9.78	-
Mean BMI (Kg/m)	26.25±1.86	-
Sex		
Male	50	62.5
Female	30	37.5
Hemorrhoid Degree		
3rd	48	60
4th	32	40

At first postoperative day after 24hrs, mean pain score in group I was 5.98±1.67 and in group II it was 7.78±3.83. After 48hrs, mean pain score in group I was 4.96±2.74 and in group II it was 6.12±1.02. At 5th postoperative day, mean score in group I was 2.98±1.68 and in group II it was 4.81±1.62. At 7th day, mean score in group I was 1.54±1.34 and in group II it was 3.99±3.75 (Table 2)

Table 2: Comparison of postoperative pain score between both groups.

Variables	Group I	Group II	P-value
After 24hrs	5.98±1.67	7.78±3.83	0.001
After 48hrs	4.96±2.74	6.12±1.02	0.001
At 5th postoperative day	2.98±1.68	4.81±1.62	0.001
At 7th postoperative day	1.54±1.34	3.99±3.75	0.001

Frequency of wound healing was lower in group II 13 (32.5%) at 7th post-operative day than that of the group I 28 (70%) cases out of 40 patients. (table 3)

Table 3: Frequency of wound healing between both groups

Variables	Yes	No
10% sucralfate	28(70%)	12(30%)
Placebo	13(32.5%)	27(67.5%)
Total	40	40

P-value <0.05

DISCUSSION

Post-operative pain control is the most critical problem after hemorrhoidectomy. This pain tends to be multifactorial and depends on individual tolerance, mode of anaesthesia and surgical technique. Besides the spasm of an anal sphincter, the two main causes are after surgical discomfort.

Many of modalities have been applied for the prevention of postoperative pain, in this study we compared the topical metronidazole with oral metronidazole undergoing open hemorrhoidectomy. Totally 80 patients were enrolled in this study, and majority of patients were male 50 (62.5%) as compared to females 30(37.5%). Results of this study showed similarity to many other

previous studies in which population of male patients was high 55% to 70% as compared to females and average age of patients was 40years. [9].

In this study, we found 48 (60%) patients had 3rd degree hemorrhoidal disease and 32 (40%) patients had 4th degree disease. A study conducted by Yahia M Al Khateeb [10] reported that 52% patients had 3rd degree and 48% had 4th degree hemorrhoidal disease. We found that, after 24hrs of post-operate, mean pain score in group I was 5.98±1.67 and in group II it was 7.78±3.83. The study by Ala S et al. indicates that 10% sucralfate significantly reduces postoperative pain.[11] After 48hrs postoperatively, mean pain score in group I was 4.96±2.74 and in group II it was 6.12±1.02. These results showed similarity to previous study, conducted by Alvandipour M et al. [12]

At 5th postoperative day, mean pain score in group I was 2.98±1.68 and in group II it was 4.81±1.62. These results were similar to Mirani AJ et al. [13] A study conducted by Tumino G et al, reported topical treatment of chronic venous ulcers with sucralfate a placebo controlled randomized study. [14].

We found that, in group I wound healing was greater 70% than that of the group II 32.5%. These results were similar to the previous studies conducted by Malik GA et al and Al khateeb et al. [9,15] In this study we concluded that 10% sucralfate was effective and pain reducing for patients undergoing open hemorrhoidectomy and these results were comparable to the many previous studies.[16,17]

CONCLUSION

It is concluded that 10 % sucralfate was effective and more useful than placebo in reducing the post-operative pain in patients undergoing open hemorrhoidectomy. Wound healing can be improved by 10% sucralfate in open hemorrhoidectomy.

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