

# Comparison between open Haemorrhoidectomy versus closed Haemorrhoidectomy

NAEEM GHAFFAR<sup>1</sup>, MUDASSAR ALI<sup>2</sup>, KAMRAN ABBAS<sup>3</sup>, KHUMAIR ASIF<sup>4</sup>

<sup>1</sup>Senior Registrar, Department of Surgery, Sir Ganga Ram Hospital/Fatima Jinnah Medical University, Lahore

<sup>2</sup>Medical Officer, Health Center GC University Faisalabad

<sup>3</sup>Medical Officer, DHQ Hospital Pakpattan

<sup>4</sup>Associate Professor, Department of Surgery, Akhter Saeed Medical and Dental College, Lahore

Correspondence to: Dr. Naeem Ghaffar, Email: [naeem.ghaffar@gmail.com](mailto:naeem.ghaffar@gmail.com), Cell: 03324276972

## ABSTRACT

**Objective:** The study is about the comparison of open haemorrhoidectomy and closed haemorrhoidectomy. This study is aimed to compare both surgical techniques and to find out the outcomes.

**Materials and Methods:** This study was conducted at surgery department sir Ganga ram hospital Lahore from January 2021 to December 2022. A total of 70 participants were part of the study. The patients of the age group between 20 to 65 years were admitted to the surgery department for planned hemorrhoids surgery. The patients treated with open haemorrhoidectomy were allocated to group 1 while group 2 consists of patients selected for closed haemorrhoidectomy. Before the surgery, consent was signed by the individual patients or their relatives.

**Exclusion Criteria:** The patients suffering from issues like ulcerative colitis, immune deficiency diseases, rectal cancer, Crohns disease, and thrombosed hemorrhoids were omitted from the study. Patients with a previous history of hemorrhoids operation and pregnant women with piles were also excluded from this study.

**Results:** A total of 70 patients were the part of study. 35 of patients for open haemorrhoidectomy considered as group 1 and 35 were the part of close haemorrhoidectomy, considered as group 2. Patients of age 20 to 65 years were included in the study. In group 1, 20 (57.14%) males and 15 (42.85%) females their average age mean was  $39.9 \pm 10.11$  for both males and females. 27 (77.14%) patients were reported preoperative bleeding, 9(25.71 %) pain and 23 (65.71%) patients had the issue of pruritus. In group 2 the mean age  $40 \pm 12.2$  was reported, 22 (62.85%) males and 13 (37.14%) females. Preoperative 25 (71.42%) bleeding cases, 6 (17.14%) with severe pain and 20 (57.14%) had a history of Pruritus. The most common symptom was bleeding. The comparison of open haemorrhoidectomy and closed haemorrhoidectomy is elucidated in Table 2. The operative time for open haemorrhoidectomy was shorter than closed haemorrhoidectomy with a P-value of 0.03. The stay duration at the hospital for the first group was 3 days while 2 days for the second group with non-significant results. The wound healing time was measured less for 2nd group than 1st group. A significant difference was found in wound healing such as for first group, 5 weeks and for 2nd group, 3 weeks. The post-operative pain was observed lesser in group 2 (closed haemorrhoidectomy) than the group 1 (open haemorrhoidectomy).

**Conclusion:** We concluded that a closed haemorrhoidectomy produces less post-operative pain than an open haemorrhoidectomy. Secondly, wound recovery was more quickly in the case of closed haemorrhoidectomy.

**Keywords:** Closed haemorrhoidectomy, open haemorrhoidectomy, haemorrhoids.

## INTRODUCTION

The standard method for the treatment of patients with grade III or IV is haemorrhoidectomy. There are two wellknown traditional methods for haemorrhoidectomy namely Milligan-Morgan open haemorrhoidectomy and Ferguson closed haemorrhoidectomy.<sup>3</sup> Open haemorrhoidectomy is mostly preferred practice in European cities while closed haemorrhoidectomy in America. Haemorrhoids are associated with swollen veins because of poor circulation commonly lead to rectal bleeding. Few other practices are also preferred for the treatment of hemorrhoids because of its more critical procedure as well as the painful process for patients. Other therapies include laser therapy and ultrasonic scalpel dissection.<sup>6</sup> The variation was found for the prevalence of haemorrhoidal disease in different studies that is 44 to 86%. A bunch of complications has been reported as a result of surgical excision of hemorrhoids through haemorrhoidectomy. One of them is sphincter dysfunction up to 25% and in 75% of cases, patients suffered from severe pain with 30% recurrent chances of disease. Although haemorrhoidectomy had many complications but it is the most preferable treatment for third degree and fourth degree hemorrhoids. The outcomes of both methods are debateable and need to be more precise towards the results. So, we decide to practice these two procedures in a hospital to minimize the adverse effects of this treatment. Therefore, in this article, we will study the comparison of both open haemorrhoidectomy and closed haemorrhoidectomy

## MATERIALS AND METHODS

This study was conducted at Sugery Department Sir Ganga Ram Hospital Lahore from January 2021 to December 2022 . A total of 70 participants were part of the study. The patients of the age

group between 20 to 65 years were admitted to the hospital surgery department for planned hemorrhoid surgery. The patients treated with open haemorrhoidectomy were allocated to group 1 while group 2 consists of patients selected for closed haemorrhoidectomy . Before the surgery, consent was signed by the individual patients or their relatives

**Exclusion Criteria:** The patients suffering from issues like ulcerative colitis, immune deficiency diseases, rectal cancer, Crohns disease, and thrombosed hemorrhoids were omitted from the study. Patients with a previous history of haemorrhoids operation and pregnant women with piles were also excluded from this study.

**Statistical Analysis:** The statistical analysis was performed using the SPSS version 23. To compare the study parameters Chi-square test was applied and a value  $< 0.05$  considered significant.

## RESULTS

A total of 70 patients were the part of the study. 35 of patients for open haemorrhoidectomy considered as group 1 and 35 were the part of closed haemorrhoidectomy considered as group 2. Patients of age 20 to 65 years were included in the study. In group 1, 20 (57.14%) males and 15 (42.5%), females. Their average age mean was  $39.9 \pm 10.11$  for both males and females. 27 (77.14%) patients were reported preoperative bleeding, 9 (25.71%) with pain, and 23 (65.71%) patients had the issue of pruritus. In group 2 the mean age  $40 \pm 12.2$  were reported, 22 (62.5%) males and 13(37.14%) females. Preoperative bleeding 25 (71.42%) cases, 6 (17.14%) with severe pain, and 20 (57.14%) had a history of Pruritus. The most common symptom was bleeding (Table).

The comparison of open haemorrhoidectomy and closed haemorrhoidectomy is elucidated in Table2. The operative time for

an open haemorrhoidectomy was shorter than closed haemorrhoidectomy with a P-value of 0.03. The stay duration at the hospital for the first group was 3 days while 2 days for the second group with non- significant results. The wound healing time was measured less for 2 group than 1 group. A significant difference was found in wound healing such as for 1<sup>st</sup> group, 5 weeks and for 2<sup>nd</sup> group, 3 weeks.

The post-operative pain was observed lesser in group 2 (closed haemorrhoidectomy) than the group 1 (open haemorrhoidectomy) Table.2. In the case of open haemorrhoidectomy, 16 (45.71%) patients had severe pain and 19 (54.2%) patients had the experience of less pain. On the other side number of patients who had the experience of closed haemorrhoidectomy were 10 (25.57%) patient suffered severe pain and 25 (71.42%) patients with not severe pain.

Table 1: Patients preoperative attributes

Parameters	Group 1 N=35 (%)	Group 2 N=35 (%)
Age (years) mean ±SD	39.9 ± 10.11	40 ± 12.2
Males	20 (57.14 %)	22 (62.85 %)
Females	15 (42.85%)	13 (37.14 %)
Bleeding	27(77.14%)	25(71.42 %)
Pain	9 (25.71%)	6 (17.14 %)
Pruritus	23 (65.71%)	20 (57.14 %)

Table: 2: Comparison of open haemorrhoidectomy and closed haemorrhoidectomy

Parameters	Open haemorrhoidectomy OR (95 % CI)	Closed Haemorrhoidectomy OR (95% CI)	P-value
Stay duration in days	3 (1.3-2.5%)	2(0.2-1.9 %)	0.14
Wound healing time (weeks)	5(1.2-3.4%)	3(0.3-1.5 %)	0.002
Mean operative time (minutes)	15(3.3-5.6 %)	18 (2.4-3.5 %)	0.03
Post-Operative Pain			
Number of patients with severe pain (%)	16 (45.71%)	10 (28.57%)	0.02
Number of patients with mild pain (%)	19(54.28 %)	25 (71.42%)	0.03

**DISCUSSION**

As hemorrhoids are the utmost ordinary anorectal problem. The stage of disorder and symptoms are the main factors to determine the actual treatment of this disease. Mostly patients get upset because of its post-operative symptoms which is one of the preferences for surgeon.<sup>15</sup> For anal surgery, haemorrhoidectomy is a general surgical technique.<sup>7</sup> In literature still, the controversy was found for both open and closed haemorrhoidectomy in terms of postoperative pain and complications.<sup>8</sup> In our study lesser pain and healing of wounds in a minimum of 3weeks was measured in patients treated with closed haemorrhoidectomy. Healing of wound is a critical factor especially when the wound is large. It may increase pain and delay healing.<sup>16,17</sup> A clinical study about the comparison of both closed and open haemorrhoidectomy of 100 patients reported that closed haemorrhoidectomy shows better results of pain relief and healing of wound as compared to open haemorrhoidectomy while the recurrence chances might be similar after one or two years.<sup>9</sup> The inner lining of the canal is amid the ample innervated tissue in the digestive route. However, postoperative pain is surely an expected condition of haemorrhoidectomy. Therefore, the researcher mostly emphasis on management of pain after operation, it is not for pain but also urinary retention.<sup>10</sup> Many studies demonstrated that various approaches for the reduction of post-operative pain. Although the selection of surgical technique was also deemed a critical aspect. As an open portion of the anal canal undergoes an open

haemorrhoidectomy might be a cause of pain. So, closed haemorrhoidectomy was the most selected technique for haemorrhoids.<sup>11</sup> A randomized control trial reported the comparison between Milligan-Morgan haemorrhoidectomy and Ferguson haemorrhoidectomy. The conclusion was in favor of Ferguson haemorrhoidectomy that helps to get the ameliorated response of surgery.<sup>12</sup> Another randomized control trial was conducted by Ho et al. to compare the wound healing and post-operative pain. Reliable healing was reported in 8 patients in 4 weeks and the case of open haemorrhoidectomy, it took 6 weeks for healing.<sup>13</sup>

**CONCLUSION**

Both surgical techniques either open or closed are an effective treatment for cure. Treatment also have a great influence to overcome the post operative complications and make the treatment better.

Eventually, after the comparison of both techniques for the treatment of haemorrhoids. We find the close haemorrhoidectomy introduces fewer post operative complications than an open haemorrhoidectomy. Secondly, wound recovery was more quickly in the case of closed haemorrhoidectomy.

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