



## A COMPARATIVE STUDY OF POSTOPERATIVE OUTCOMES OF OPEN VERSUS CLOSED HAEMORRHOIDECTOMY IN PATIENT PRESENTING TO TERTIARY CARE CENTER

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**ABSTRACT** Hemorrhoids are among the most common anorectal conditions leading to surgical referrals, with hemorrhoidectomy being one of the most frequently performed anorectal procedures. For Grade III and IV hemorrhoids, hemorrhoidectomy remains the most effective treatment. This study aims to compare the outcomes of open versus closed hemorrhoidectomy based on specific parameters such as post-operative pain, complications, length of hospital stay and wound healing in open hemorrhoidectomy for third and fourth-degree hemorrhoids.

**KEYWORDS :** Hemorrhoids, Hemorrhoidectomy, Milligan-morgan, Ferguson hemorrhoidectomy

### INTRODUCTION

Hemorrhoids are among the most common anorectal conditions leading to surgical referrals, with hemorrhoidectomy being one of the most frequently performed anorectal procedures.(1) Complaints related to hemorrhoids are prevalent, especially in Western societies.(2) While the condition is rarely life-threatening, the complications of its treatment can be serious. For Grade III and IV hemorrhoids, hemorrhoidectomy remains the most effective treatment.(3) The conventional open hemorrhoidectomy technique was described by Milligan and Morgan in 1937, while Ferguson introduced the closed hemorrhoidectomy approach in 1959.(4) Due to its low cost and technical simplicity, open hemorrhoidectomy is typically the procedure of choice, despite the emergence of newer treatment options. Closed hemorrhoidectomy, as described by Ferguson, has gained significant attention in certain regions due to its lower postoperative pain, attributed to the closure of mucosal edges, as well as faster wound healing and improved patient compliance.(5) However, randomized controlled trials comparing the two procedures have produced mixed results. This study aims to compare the outcomes of open versus closed hemorrhoidectomy based on specific parameters.

### Objectives

- To evaluate post operative pain, complications, length of hospital stay and wound healing in open hemorrhoidectomy for third and fourth-degree hemorrhoids.
- To evaluate post operative pain, complications, length of hospital stay and wound healing in closed hemorrhoidectomy for third and fourth-degree hemorrhoids.
- To compare post operative pain, complications, length of hospital stay and wound healing in open and closed hemorrhoidectomy for third and fourth-degree hemorrhoids.

### Study Design:

Prospective Comparative Study

### Sample Size:

From the article of Sandeep A Naik et al proportion of first group was 69% and proportion of second group was 44% by applying the formula and taking the level of significance 5% and power of test 80%. Our sample size is 80 (40 in each group).

### Inclusion Criteria:

Subjects admitted with hemorrhoids grade 3 and 4.  
Both sex included Above 18 years who had given valid informed consent

### Exclusion Criteria:

Subjects with grade 1 and 2 hemorrhoids.  
The data was collected in prescribed PROFORMA where in it contains, particulars of the patient, clinical history, clinical examination and diagnosis, relevant investigations, and details of surgery.

FOLLOW-UP Period of follow up being 3rd week, 6th week from the day of surgery.

### Observation

#### Comparison Of Age Distribution Between Two Groups

| AGE   | Group A OPEN | Group B CLOSED |
|-------|--------------|----------------|
| <20   | 1            | 0              |
| 21-30 | 5            | 10             |
| 31-40 | 16           | 16             |
| 41-50 | 15           | 11             |
| >50   | 3            | 3              |
| MEAN  | 38.37±9.18   | 36.75±8.91     |

| WOUND HEALING RATE | GROUP A OPEN | GROUP B CLOSED | P VALUE | T TEST |
|--------------------|--------------|----------------|---------|--------|
| 2-4 WEEKS          | 17           | 30             |         |        |
| >4 WEEKS           | 23           | 10             |         |        |
| MEAN               | 4.15         | 3.5            | 0.002   | 3.13   |
| SD                 | 0.989        | 0.86           |         |        |

| POST OP COMPLAINTS    | GROUP A OPEN | GROUP B CLOSED | P VALUE |
|-----------------------|--------------|----------------|---------|
| BLEEDING AT 24 HRS    | 14           | 8              | 0.210   |
| BLEEDING AT 48 HRS    | 10           | 6              | 0.402   |
| INFECTION             | 3            | 1              | 0.615   |
| INCONTINENCE AT 3 WKS | 4            | 3              | 1       |
| INCONTINENCE AT 6WKS  | 2            | 1              | 0.99    |
| URINARY RETENSION     | 4            | 6              | 0.73    |
| ANAL STENOSIS         | 2            | 4              | 0.675   |

| RETURN TO WORK | GROUP A OPEN | GROUP B CLOSED | P VALUE | T TEST |
|----------------|--------------|----------------|---------|--------|
| <10 DAYS       | 13           | 26             |         |        |
| ≥ 10 DAYS      | 27           | 14             |         |        |
| MEAN           | 11.75        | 8.5            | 0.003   | 3.08   |
| SD             | ±4.69        | ±4.77          |         |        |

| DAY OF DISCHARGE              | GROUP A OPEN | GROUP B CLOSED | P VALUE |
|-------------------------------|--------------|----------------|---------|
| MEAN ±SD                      | 13.33±4.65   | 13.33±6.13     | 1.00    |
| PAIN SCORE VAS POST DEFECTION | GROUP A      | GROUP B        | P VALUE |
| 24 HRS                        | 7.0±1.1      | 6.5±0.75       | 0.032   |
| 48 HRS                        | 5.0±0.8      | 4.3±0.5        | 0.001   |

| PAIN SCORE VAS | GROUP A OPEN | GROUP B CLOSED | P VALUE |
|----------------|--------------|----------------|---------|
| 6 HRS          | 6.4±0.7      | 5.4±0.75       | <0.001  |
| 24 HRS         | 5.1±0.6      | 4.6±0.8        | 0.02    |
| 48 HRS         | 3.1±0.5      | 7±0.6          | 0.04    |
| 3 DAYS         | 2.0±0.5      | 1.8±0.5        | 0.08    |
| 7 DAYS         | 1.7±0.4      | 1.5±0.4        | 0.12    |

P Value Calculated from Mann Whitney U Test

**CONCLUSION**

There are reports of better post operative outcome following closed hemorrhoidectomy in terms of pain and wound healing. Both open and closed approach are less expensive and safe, easy to perform with satisfactory results.

We found that the important advantages of Fergusons closed approach over the Millian Morgan open approach. They are reduced pain in immediate post operative period and at 24 hours with fewer analgesic pills required to control the pain , leading to reduced hospital stay and early

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