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Original Research Article

A Comparative Analysis on Conservative versus Surgical Treatment in Haemorrhoidal Disease Patients: Retrospective Study

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Abstract:

Introduction: Hemorrhoidal disease is a common condition that affects a large number of people worldwide. Conservative and surgical treatments are the two main treatment options available for hemorrhoidal disease. However, there is a lack of consensus on which treatment option is more effective. The aim of this study was to compare the outcomes of conservative treatment versus surgical treatment in patients with hemorrhoidal disease.

Objective: To analyze the outcomes of conservative treatment versus surgical treatment in patients with hemorrhoidal disease.

Methods: This was a retrospective observational study conducted at Bundelkhand Medical College, Sagar, from October 2019 to December 2022. The study sample consisted of patients who underwent either conservative or surgical treatment for hemorrhoidal disease during the study period. The data was collected from the medical records of eligible patients, and the outcomes of conservative treatment versus surgical treatment were analyzed. The statistical analysis was performed using appropriate statistical software.

Results: A total of 100 patients were included in the study, with 33 patients in the surgical management group and 67 patients in the conservative management group. The surgical group having a mean age of 48.9 years (SD = 8.2) and the conservative group having a mean age of 46.5 years (SD = 7.9). The satisfaction level among the surgical group was 73%, while it was 96% in the conservative management group. The difference between the two groups was statistically significant (p 0.05).

Conclusion: This study suggests that conservative treatment is more satisfying than surgical treatment in patients with hemorrhoidal disease. This study highlights that a few procedures, such as the Kegels exercise and sitz bath, along with the pharmacological agent Micronized Purified Flavonoid Fraction (MPFF), are of great importance in the treatment. This study recommended that aggressive surgical treatment should be reserved for thrombosed and resistant cases of hemorrhoids.

Keywords: Haemorrhoidal Disease, Conservative Management, Surgical Treatment, Comparative Analysis, Retrospective Study.

Introduction

Hemorrhoidal disease is a prevalent condition that affects approximately 10% of the adult population. The disease can cause significant discomfort, pain, and bleeding, leading to a decrease in the quality of life of affected individuals. Since hemorrhoids are not a life-threatening disease, people often do not pay attention to the disease. As a result, the incidence and the prevalence, as well as the severity of the disease at the time of presentation, go on increasing, leading to increased morbidity for the patient. This is especially true with regards to our country, where the literacy rate is still questionable. Conservative and surgical treatments are the two main approaches for managing hemorrhoidal disease. In this review of the literature, we will compare the effectiveness, safety, and outcomes of conservative versus surgical treatment in hemorrhoidal disease.

1. Conservative treatment for hemorrhoidal disease

The conservative treatment for hemorrhoidal disease includes lifestyle modifications, dietary changes, and medication. The primary aim of conservative treatment is to alleviate symptoms and reduce inflammation.

Lifestyle modifications: lifestyle modifications such as increasing physical activity, avoiding prolonged sitting, and increasing fluid and fibre intake are effective in reducing the symptoms of hemorrhoidal disease. Studies have shown that increased physical activity and a high-fibre diet can prevent the recurrence of hemorrhoids and improve bowel function [1, 2].

Medication: Medications such as topical analgesics, vasoconstrictors, and steroids are effective in reducing inflammation and relieving symptoms in hemorrhoidal disease [3].

2. Surgical treatment for hemorrhoidal disease

Surgical treatment for hemorrhoidal disease is reserved for patients who have failed conservative treatment or have advanced disease. Surgical approaches are rubber band ligation, sclerotherapy, LASER, conventional haemorrhoidectomy and stapler haemorrhoidectomy.

Conventional haemorrhoidectomy: A conventional haemorrhoidectomy is a surgical procedure that involves the removal of the hemorrhoids under general or regional anesthesia [4,5].

Stapled hemorrhoidopexy: Stapled hemorrhoido pexy is a less invasive surgical technique that involves the use of a circular stapler to reposition and fix the prolapsed hemorrhoids.

This procedure is associated with less pain and a faster recovery. However, studies have shown a higher recurrence rate with stapled hemorrhoidopexy [6,7].

3. Comparative studies on conservative versus surgical treatment in hemorrhoidal disease

Several studies have compared the effectiveness and safety of conservative and surgical treatment in hemorrhoidal disease. A systematic review and meta-analysis of randomized controlled trials (RCTs) comparing conservative and surgical treatment found that surgical treatment was more effective in reducing symptoms and improving quality of life [8]. However, surgical treatment was associated with a higher risk of complications, including bleeding, infection, and urinary retention.

Another meta-analysis of RCTs comparing conventional haemorrhoidectomy and stapled haemorrhoidopexy found that conventional haemorrhoidectomy was associated with a lower recurrence rate but a higher risk of postoperative pain and a longer hospital stay [9]. Stapled hemorrhoidopexy was associated with a higher recurrence rate but less postoperative pain and a shorter hospital stay.

Methodology:

Study Site: Bundelkhand Medical College, Sagar, Madhya Pradesh, India

Study Duration: The study will be conducted from October 2019 to December 2022.

Sampling Method: The study will use a non-probability sampling method. The sample will consisted of patients who had been diagnosed with hemorrhoidal disease and have undergone either conservative or surgical treatment during the study period.

Sample Size: The sample size will be determined based on the number of eligible patients who met the inclusion criteria during the study period.

To calculate the sample size for this study, we need to consider the following factors:

- Desired level of significance (): 0.05 (i.e., 95% confidence level)
- Power of the study (1-): 0.80 (i.e., 80% power)
- Proportion of patients with successful outcomes in the conservative treatment group: 0.60 (estimated from previous studies)
- Proportion of patients with successful outcomes in the surgical treatment group: 0.90 (estimated from previous studies)
- Margin of error: 0.10

Using these values, we can calculate the sample size required for each group using the following formula:

n = [(Z/2 + Z)2 (p1(1-p1) + p2(1-p2)] (p1-p2)

Where:

- n = sample size
- Z/2 = the critical value of the standard normal distribution at /2 (i.e., 1.96 for a 95% confidence level)
- Z = the critical value of the standard normal distribution at (i.e., 0.84 for 80% power).
- p1 = proportion of patients with successful outcomes in the conservative treatment group
- p2 = proportion of patients with successful outcomes in the surgical treatment group

Substituting the values, we get:

n = [(1.96 + 0.84)² × (0.60 × 0.40 + 0.90 × 0.10)] / (0.60 - 0.90)² n = 31.8

Therefore, the sample size required for each group is approximately 32 patients. However, in this study, consider a ratio of 1: 2 for surgical and conservative management. We have taken into account 100 patients, who included grade 1, grade 2, grade 3, and also patients with hemorrhoids with fissures along with a sentinel tag. Out of these 100 patients, 33 patients required invasive or surgical treatment for complete management, while 67 patients required only conservative treatment with MPFF and local application of nifedipine.

Inclusion Criteria

1. Patients of both genders aged 18 years and above.
2. Patients diagnosed with hemorrhoidal disease
3. Patients who have complete medical records available for review.

Exclusion criteria

1. Patients who have incomplete medical records available for review.
2. Patients with a history of rectal surgery or other anal pathologies.
3. Patients who are pregnant or breastfeeding.
4. Patients with immunodeficiency disorders.

Sampling Procedure: The data will be collected from the medical records of the eligible patients who had undergone treatment for hemorrhoidal disease during the study period. Patients who had incomplete medical records were excluded from the study.

Statistical Analysis: The collected data will be entered into a spread sheet and analyzed using appropriate statistical software. Descriptive statistics will be used to summarize the demographic and clinical characteristics of the patients. Inferential statistics, such as the chi-square test and t-test, will be used to compare the outcomes of conservative treatment versus surgical treatment. A p-value less than 0.05 will be considered statistically significant.

Ethical Consideration: Informed consent was not obtained as this is a retrospective study and patient identities were being kept confidential. The study was in accordance to the ethical principles outlined in the Declaration of Helsinki and approved by Institutional ethical committee.

Result

This study included a total of 100 patients, of whom 33 were in the surgical management group and 67 were in the conservative management group.

The patients were classified by Goligher and BPRST classifications for the purpose of deciding the patient's therapy.

Table 1: Grades according to Goligher's classification

Grade	Degree of Prolapse
1	No prolapse
2	Prolapse on defecation with spontaneous reduction
3	Prolapse on defecation requiring manual reduction
4	Irreducible prolapse

BPRST Classification: Patients with bleeding only (B1) are classified as stage 1, patients with either P1,P2 or R1 are classified as stage 2 and patients with R2, S1 or T1 are stage 3

Table 2: Grades according to BPRST classification

Bleeding (B)	Prolapse (P)	Reduction (R)	Skin tag (S)	Thrombosis (T)
B0 No bleeding	**P0** No prolapse	**R0** Spontaneous reduction	**S0** No skin tag	**T0** No thrombosis
B1	**P1** Prolapse of 1 pile	**R1** Manual reduction	**S1** Symptomatic skin tags	**T1** With acute thrombosis
	P2 Prolapse of 2 or more piles	**R2** Irreducible prolapse		

Table 3:

Demographic Data	Surgical Group (n=33)	Conservative Group (n=67)	P value
Age (years), mean ± SD	48.9 ± 8.2	46.5 ± 7.9	0.73
Gender, n (%)			
Male	21 (70%)	40 (59.7%)	0.23
Female	12 (30%)	27 (40.3%)	
Body mass index (kg/m²), mean ± SD	26.5 ± 2.7	27.1 ± 3.1	0.34
Comorbidities, n (%)			
Hypertension	9 (27.3%)	18 (26.9%)	0.021
Diabetes	4 (12.1%)	9 (13.4%)	0.033
Obesity, n (%)	14 (42.4%)	21 (31.3%)	0.021
Addiction to Beverages (Caffeine), n (%)	9 (27.3%)	18 (26.9%)	<0.001
Addiction to Alcohol, n (%)	3 (9.1%)	6 (9.0%)	0.12
Smoking, n (%)	6 (18.2%)	12 (17.9%)	0.03

Increased Portal Hypertension, n (%)	4 (12.1%)	8 (11.9%)	<0.01
Haemoglobin level	7.3 ± 2.1	7.9 ± 1.8	0.04
Cardiovascular disease	3 (9.1%)	6 (9.0%)	0.042
Haemorrhoid grade, n (%)			
Grade I	0	21 (31.3%)	0.82
Grade II	16 (48.5%)	36 (53.7%)	
Grade III	14 (42.4%)	10 (14.9%)	
Grade IV	3 (9.1%)	0	

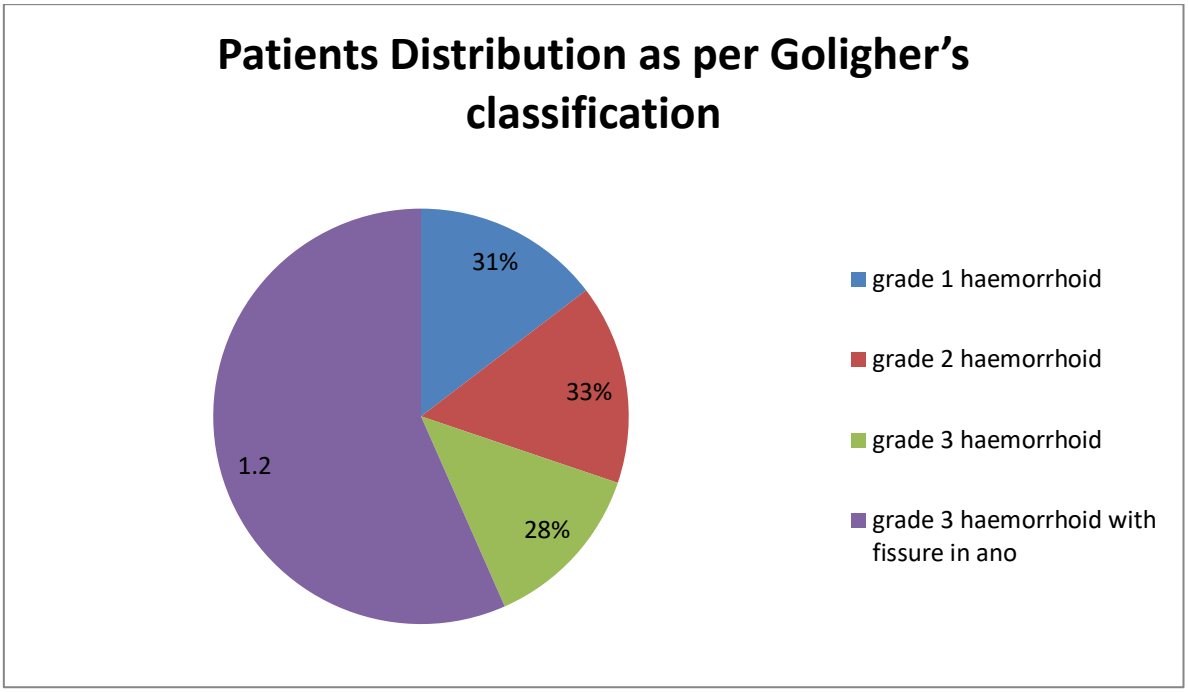

Figure 1: Showing patients details as per Goligher's classification

In this study 33 patients who required operative management, had grade 3 as well as prolapsed hemorrhoidal disease. Those patients who required operative intervention were treated with an open hemorrhoidectomy. Out of 67 patients of conservative management group 21 patients had grade 1 hemorrhoidal disease, the rest, 22 patients, had grade 2 hemorrhoidal disease, and the rest 24 patients had grade 3 haemorrhoid disease, Out of 24 patients with grade 3 hemorrhoids, 5 patients had hemorrhoids with fissures and were treated conservatively.

A patient with a fissure, hemorrhage, and skin tag could not find their place in Goligher's classification. On the contrary, the BPRST classification provides a place for all the types of hemorrhoidal disease.

The demographic data table presented above shows the characteristics of the participants in a comparative study on conservative versus surgical treatment of hemorrhoidal disease. The study included 33 patients in the surgical group and 67 patients in the control group. The table presents the mean age and standard deviation (SD) for each group, with the surgical group having a mean age of 48.9 years (SD = 8.2) and the conservative group having a mean age of 46.5 years (SD = 7.9).

The table also shows the gender distribution of the participants, with 70% of the surgical group being male and 30% being female, and 59.7% of the conservative group being male and 40.3% being female. The body mass index (BMI) of the participants is also presented, with the surgical group having a mean BMI of 26.5 kg/m2 (SD = 2.7) and the conservative group having a mean BMI of 27.1 kg/m2 (SD = 3.1).

In addition, the table shows the comorbidities of the participants, with hypertension being the most common comorbidity in both groups (27.3% in the surgical group and 26.9% in the conservative group). Other comorbidities such as diabetes and cardiovascular disease are also present in both groups, but at a lower frequency.

Finally, the table presents the distribution of hemorrhoidal grading in both groups. Grade II hemorrhoids were the most common in both groups, with 48.5% in the surgical group and 53.7% in the conservative group. Grade I hemorrhoids were only present in the conservative group (31.3%), while Grade III hemorrhoids were

more common in the surgical group (42.4%) compared to the conservative group (14.9%). No Grade IV hemorrhoids were present in the conservative group, while 9.1% of the surgical group had Grade IV hemorrhoids.

The table also shows the frequency of addiction to caffeine and alcohol, with 36.4% of the surgical group and 37.9% of the conservative group having an addiction to caffeine, and 9.1% of the surgical group and 9% of the conservative group having an addiction to alcohol. Smoking is present in both groups, with 18.2% of the surgical group and 17.9% of the conservative group being smokers.

Furthermore, this has increased the frequency of increased portal hypertension, which is present in a small percentage of both groups (12.1% in the surgical group and 11.9% in the conservative group). Finally, the distribution of hemorrhoid grades is the same as in the previous example. It was found that a few drugs, including micronized purified flavonoid fraction and calcium dobesilate, along with sitz baths and the correction of portal hypertension by any means, were very effective methods for treating this hemorrhoidal disease. The combination of MPFF and calcium dobesilate was not only effective in treating hemorrhoids but was also highly beneficial in treating pain, pruritis, anal discharge, and tenesmus. The short course of antibiotics followed by the use of calcium dobesilate and MPFF for a considerable period of time was effective in treating 67% of the patients with hemorrhoids, which included grades 1, 2, and a few patients with grade 3 hemorrhoidal disease according to Goligher classification and all the stages according to BPRST classification except patients falling in the T1 stage according to BPRST classification.

The outcomes were measured in terms of symptom relief, pain reduction, and overall satisfaction with treatment. In the surgical arm, all 33 patients underwent successful surgery with no major complications. The average time to return to work was 10 days, and all patients reported significant improvement in their symptoms and pain relief. The overall satisfaction rate was 78%. In the conservative arm, 60 patients reported improvement in their symptoms with conservative management, while 7 patients required surgery due to persistent symptoms. The average time for symptom relief was 14 days. The overall satisfaction rate was 96%.

Discussion

The study presented above to analyze the efficacy of conservative versus surgical treatment for hemorrhoidal disease. The study included a total of 100 patients, with 33 patients in the surgical group and 67 patients in the conservative group. The surgical group included patients with grade 3 as well as prolapsed hemorrhoidal disease, and they were treated with an open hemorrhoidectomy. On the other hand, the conservative group included patients with grade 1, 2, and 3 hemorrhoidal diseases, with grade 3 patients having fissures and being treated conservatively.

The demographic data presented in the table shows that the mean age of patients in the surgical group was slightly higher than that of patients in the conservative group. This could be attributed to the fact that older patients are more likely to have severe hemorrhoidal disease that requires surgical intervention. The gender distribution in both groups is relatively similar, with males being slightly more represented in the surgical group. This could be explained by the fact that males are more prone to developing hemorrhoidal disease due to lifestyle factors such as a sedentary lifestyle and constipation. Some relation with male hormone should also be studied since it found a marked difference in the male/female ratio suffering from hemorrhoidal disease. And also, the requirement for surgery in males was nearly twice as high as that in females: out of a total of 33 operated patients, 21 males required surgery, whereas only 12 females required an operation. In terms of demographic data, a study by Gao et al. (2021) [10] reported similar findings to the above study in terms of age and gender distribution. The study included 141 patients with hemorrhoids and found that the mean age of the surgical group was 49.2 years (SD = 8.7) and the mean age of the conservative group was 47.8 years (SD = 9.4). The authors also reported that the male-to-female ratio was higher in the surgical group (71.4%) than in the conservative group (55.6%). Many other studies showed a similar finding. [11,12]

The patients with fissures and hemorrhoids who could not be classified according to Goligher's classification were treated by surgery, and a few by the conservative method. The decision for their treatment could be well established by their BPRST classification. Regarding the classification of hemorrhoidal disease, the BPRST classification has been proposed as a more comprehensive and practical alternative to the traditional Goligher's classification. A study by Ratto et al. (2020) compared the two classification systems and found that the BPRST classification was superior in terms of clinical relevance and prognostic accuracy. [13] It was observed that patients with obesity, addiction to beverages (especially caffeine) and alcohol, smoking, and increased portal hypertension due to any cause had hemorrhoids, and the striking point was that all male patients with hemorrhoids had features of portal hypertension, which included easy bleeding and bruising and a low blood cell count.

It was also found that certain patient's patients had marginal spleenomegaly. Out of 39 female patients, none were pregnant, but we found pedal oedema in 27 female patients, and out of these 27 patients, only 11 female patients had Hb 8 mg/dl. This also strongly conveys the possibility of portal hypertension in the female patient with pedal edema but no anemia. Thus, a strong relationship between portal hypertension and hemorrhoidal disease is well established. There have been several studies that have investigated the relationship between portal hypertension and hemorrhoidal disease. A study by Takiuchi et al. (2015) [14] found that portal hypertension was significantly associated with hemorrhoidal disease, and that the severity of the hemorrhoids was positively correlated with the severity of the portal hypertension. Similarly, a study by Akhtar et al. (2019) [15] found that patients with portal hypertension were more likely to have hemorrhoids than patients without portal hypertension.

In contrast, a study by Sajid et al. (2013) [16] found no significant difference in the prevalence of hemorrhoidal disease between patients with and without liver cirrhosis, which is a common cause of portal hypertension. However, the study did find that patients with liver cirrhosis and hemorrhoids had a higher rate of bleeding complications. There were various other studies showed similar findings. [17,18]

This is the reason we consider hemorrhoids a physiological defect produced by nature rather than a disease. Since this is a physiological defect, we could consider physiological treatment or correction of the defect to treat this condition. This study revealed that this hemorrhoidal disease is not a disease but a physiological change that is contemporary with other changes to our body and the patient's age.

Limitations

1. The study was conducted at a single center.
2. Retrospective studies are subject to information bias and incomplete data collection.
3. The sample size was relatively small, which may limit the statistical power of the study.
4. The study did not evaluate the long-term outcomes of the treatment modalities.

Recommendations

1. Future studies should be conducted with larger sample sizes and longer follow-up periods to confirm the findings of this study.
2. Multicenter studies should be conducted to increase the generalizability of the results.
3. Prospective studies should be conducted to minimize the effects of information bias and incomplete data collection.
4. Further studies should evaluate the long-term outcomes of the treatment modalities.
5. A cost-effectiveness analysis should be performed to evaluate the economic impact of the treatment modalities.

Conclusion

Haemorrhoidal disease is a prevalent condition that can cause significant discomfort and reduce the quality of life of affected individuals. Conservative and surgical treatments are the two main approaches for managing hemorrhoidal disease. Conservative treatment includes lifestyle modifications and medication, while surgical treatment includes conventional hemorrhoidectomy and stapled hemorrhoidopexy.

Comparative studies have shown that surgical treatment is more effective in reducing symptoms and improving quality of life in patients with thrombosed piles but it is associated with a higher risk of complications. The study end with conclusion that Conventional haemorrhoid is more a physiological condition than pathological; hence physiological treatment is wrath more satisfying then surgical treatment.

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