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Original Research Article

COMPARATIVE OUTCOMES OF DIFFERENT TREATMENT MODALITIES FOR HAEMORRHOIDAL DISEASE: A PROSPECTIVE COMPARATIVE STUDY OF 150 PATIENTS AT A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Haemorrhoidal disease is a common anorectal disorder with variable clinical presentation and treatment response. Management ranges from conservative treatment and office-based procedures to minimally invasive and excisional surgical techniques. This study compared demographic profile, clinical presentation, treatment allocation and outcomes among patients managed with different modalities for haemorrhoidal disease.

Materials and Methods: This prospective comparative study included 150 patients presenting with haemorrhoidal disease at Hind Hospital, Hind Institute of Medical Sciences, Barabanki, Uttar Pradesh. Patients were assessed clinically by history, digital rectal examination and proctoscopy where feasible. Haemorrhoids were graded using the Goligher classification. Treatment modalities included conservative management, laser haemorrhoidoplasty, Doppler-guided haemorrhoidal artery ligation/dearterialisation, rubber band ligation, stapled haemorrhoidopexy, open haemorrhoidectomy and closed haemorrhoidectomy. Follow-up assessment was performed at 10 and 30 days. In patients with associated anal fissure, fissure healing was additionally assessed at 6 weeks. Outcomes included operative duration, postoperative pain using the visual analogue scale, recovery, symptom relief, complications, recurrence predictors and correlation of glycaemic control with healing time.

Results: The mean age was 42.5 ± 12.4 years. There were 102 males (68.00%) and 48 females (32.00%). The commonest diagnosis was isolated haemorrhoids in 128 patients (85.33%), followed by haemorrhoids with anal fissure in 14 patients (9.33%). Bleeding per rectum was the commonest symptom, present in 138 patients (92.00%), followed by prolapse or mass per anus in 101 patients (67.33%). Grade II haemorrhoids were most frequent, seen in 54 patients (36.00%), followed by Grade III in 42 patients (28.00%), Grade IV in 28 patients (18.67%) and Grade I in 26 patients (17.33%). Mean operative duration differed significantly across procedures, being shortest for rubber band ligation (12.4 ± 2.1 min) and longest for closed haemorrhoidectomy (48.2 ± 7.9 min; ANOVA $F = 42.6$, $p < 0.001$). Mean 24-hour postoperative VAS pain score was lowest after laser haemorrhoidoplasty (2.1 ± 0.3, mean ± SE) and highest after open haemorrhoidectomy (7.8 ± 0.8, mean ± SE). Mean recovery time was shortest after laser haemorrhoidoplasty (4.2 ± 1.2 days) and longest after haemorrhoidectomy (15.4 ± 3.5 days). Urinary retention was significantly more frequent in the surgical group than in

the conservative group (12 vs 1; $\chi^2 = 7.2$, $p < 0.01$). Non-compliance with medication or diet was the strongest predictor of recurrence (OR 4.2, 95% CI 2.1–8.4, $p = 0.001$). HbA1c showed a strong positive correlation with healing time ($r = 0.74$, $p < 0.001$).

Conclusion: Haemorrhoidal disease showed a male predominance and most patients presented with bleeding per rectum. Lower-grade disease was managed using conservative and minimally invasive modalities, while Grade III and IV disease required operative management. Minimally invasive procedures were associated with shorter operative duration, lower early postoperative pain and faster recovery, whereas haemorrhoidectomy showed high 30-day symptom relief but longer recovery. Treatment selection should be individualised according to grade, symptoms, patient factors and expected recovery profile.

Keywords: Haemorrhoidal disease; Rubber band ligation; Laser haemorrhoidoplasty; Stapled haemorrhoidopexy; Haemorrhoidectomy; Visual analogue scale.

INTRODUCTION

Haemorrhoidal disease is one of the most common anorectal conditions encountered in surgical practice. It represents symptomatic enlargement and distal displacement of the normal anal cushions, resulting in bleeding, prolapse, pain, itching, discharge and difficulty during defecation.[1] Although many patients respond to conservative measures, persistent bleeding, prolapse or recurrent symptoms may require office-based or operative intervention.[2]

Treatment selection depends on haemorrhoid grade, symptom severity, associated anorectal pathology, patient preference, comorbidity and available resources. Conservative measures and office-based procedures are commonly used for lower-grade haemorrhoids, while advanced prolapse often requires operative treatment.[2] Conventional open haemorrhoidectomy, originally described by Milligan and Morgan, remains an effective operation for advanced disease but is associated with postoperative pain and delayed recovery.[3] Closed haemorrhoidectomy, described by Ferguson and Heaton, was developed to reduce wound-related morbidity and promote healing.[4]

Rubber band ligation is a widely used office-based procedure, particularly for lower-grade internal haemorrhoids.[5] Stapled haemorrhoidopexy was introduced as a less painful operative alternative for prolapsing haemorrhoids, although concerns remain regarding recurrence and long-term durability.[6–8] Doppler-guided haemorrhoidal artery ligation and laser haemorrhoidoplasty are minimally invasive techniques that aim to reduce postoperative pain and shorten recovery, but their relative role depends on patient selection and grade of disease.[9,10]

Comparison between modalities requires uniform assessment of operative duration, postoperative pain, recovery, complications and recurrence. Standardised reporting of complications using systems such as the Clavien–Dindo classification improves comparability across operative studies.[11]

The objective of this study was to compare clinical profile, treatment allocation, operative duration, postoperative pain, recovery, complications and recurrence among patients managed with different treatment modalities for haemorrhoidal disease at Hind Hospital.

MATERIALS AND METHODS

Study design and setting: This was a prospective comparative study conducted in the Department of General Surgery, Hind Hospital, Hind Institute of Medical Sciences, Barabanki, Uttar Pradesh, India.

Study duration: The study was conducted for a period of 15 months.

Participants: A total of 150 patients presenting with anorectal complaints and diagnosed with haemorrhoidal disease were included. Patients were assessed in outpatient and emergency settings.

Inclusion criteria

Patients aged 18–70 years with symptomatic haemorrhoidal disease who were eligible for conservative, office-based, minimally invasive or operative management were included.

Exclusion criteria

Patients younger than 18 years or older than 70 years were excluded. Patients with anorectal malignancy were also excluded.

Sample size: The final sample size was 150 patients.

Clinical assessment: All patients underwent clinical evaluation including history, symptom assessment and local anorectal examination. Digital rectal examination and proctoscopy were performed where clinically feasible. Internal haemorrhoids were graded using the Goligher classification. Associated benign anorectal conditions, including anal fissure and fistula-in-ano, were recorded.

Treatment allocation: Treatment was allocated according to haemorrhoid grade, clinical presentation, associated pathology and suitability for conservative, office-based or operative management. Conservative management included dietary advice and sitz bath. Minimally invasive or office-based modalities included laser haemorrhoidoplasty,

Doppler-guided haemorrhoidal artery ligation/dearterialisation and rubber band ligation. Operative modalities included stapled haemorrhoidopexy, open haemorrhoidectomy and closed haemorrhoidectomy.

Data collection and variables: The recorded variables included age, sex, primary anorectal diagnosis, presenting symptoms, Goligher grade, treatment modality, operative duration, 24-hour postoperative pain score, recovery time, percentage relief at 30 days, postoperative complications, systemic factors affecting surgical delay, recurrence predictors and glycaemic parameters.

Outcome measures: The primary outcomes were postoperative morbidity, recovery profile and recurrence. Secondary outcomes included operative duration, postoperative pain using the visual analogue scale, relief at 30 days, procedure-specific complications, recurrence predictors and association between HbA1c and healing time. Follow-up assessment was performed at 10 and 30 days. In patients with associated anal fissure, fissure healing was additionally assessed at 6 weeks.

Statistical analysis: Categorical variables were expressed as frequency and percentage. Continuous variables were expressed as mean ± standard deviation or mean ± standard error, as applicable. Chi-square test, t-test, analysis of variance, logistic regression and correlation analysis were used according to the type of variable and comparison. A p-value <0.05 was considered statistically significant.Statistical analysis was performed using IBM SPSS 27.0.

Ethical considerations: The study was approved by the Institutional Human Ethics Committee, Hind Institute of Medical Sciences, Barabanki, Uttar Pradesh, India. Written informed consent was obtained from all participants before enrolment.

RESULTS

Study population:

A total of 150 patients were included. The mean age was 42.5 ± 12.4 years. There were 102 males (68.00%) and 48 females (32.00%). The largest age group was 31–45 years, comprising 65 patients (43.33%), followed by 46–60 years in 42 patients (28.00%), 18–30 years in 28 patients (18.67%) and more than 60 years in 15 patients (10.00%).

Table 1: Baseline demographic profile of the study population

Variable	Frequency (n)	Percentage (%)
Total patients	150	100.00
Male	102	68.00
Female	48	32.00
18–30 years	28	18.67
31–45 years	65	43.33
46–60 years	42	28.00
>60 years	15	10.00
Mean age	42.5 ± 12.4 years	—

Primary anorectal diagnosis: Isolated haemorrhoids were present in 128 patients (85.33%). Haemorrhoids with anal fissure were present in 14 patients (9.33%), haemorrhoids with fistula-in-ano in 2 patients (1.33%) and other benign anorectal conditions in 6 patients (4.0%).

Clinical presentation: The commonest presenting symptom was bleeding per rectum, seen in 138 patients (92.00%). Prolapse or mass per anus was present in 101 patients (67.33%), difficulty in defecation in 74 patients (49.33%), perianal pain in 65 patients (43.33%) and anal itching or discharge in 42 patients (28.00%).

Table 2: Clinical presentation and primary diagnosis

Variable	Frequency (n)	Percentage (%)
Primary diagnosis		
Haemorrhoids, isolated	128	85.33
Haemorrhoids with anal fissure	14	9.33
Haemorrhoids with fistula-in-ano	2	1.33
Other benign anorectal conditions	6	4.0
Symptoms		
Bleeding per rectum	138	92.00
Prolapse/mass per anus	101	67.33
Difficulty in defecation	74	49.33
Perianal pain	65	43.33
Anal itching/discharge	42	28.00

Distribution according to Goligher grade:

Grade II haemorrhoids were most common, seen in 54 patients (36.00%). Grade III haemorrhoids were present in 42 patients (28.00%), Grade IV in 28 patients (18.67%) and Grade I in 26 patients (17.33%).

Table 3: Distribution of internal haemorrhoids according to Goligher grade

Grade	Frequency (n)	Percentage (%)	Clinical feature
Grade I	26	17.33	Non-prolapsing
Grade II	54	36.00	Spontaneous reduction
Grade III	42	28.00	Requires manual reduction
Grade IV	28	18.67	Irreducible

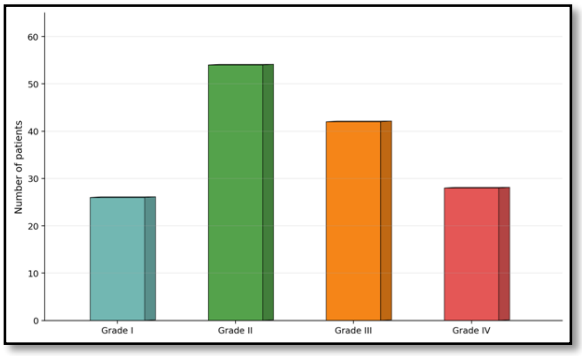

Figure 1: Distribution of internal haemorrhoids by Goligher grade.

Treatment allocation: Among Grade I patients, conservative management was used in 10 patients, laser haemorrhoidoplasty in 8 and DHAL/DGHAL in 8. Among Grade II patients, conservative management was used in 12 patients, laser haemorrhoidoplasty in 15, DHAL/DGHAL in 14 and rubber band ligation in 13. Among Grade III patients, open haemorrhoidectomy, closed haemorrhoidectomy and stapled haemorrhoidopexy were used in 14 patients each. Among Grade IV patients, open haemorrhoidectomy and closed haemorrhoidectomy were used in 14 patients each.

Table 4: Treatment allocation according to haemorrhoid grade

Treatment modality	Grade I (n=26)	Grade II (n=54)	Grade III (n=42)	Grade IV (n=28)	Total
Conservative management	10	12	—	—	22
Laser haemorrhoidoplasty	8	15	—	—	23
DHAL/DGHAL	8	14	—	—	22
Rubber band ligation	—	13	—	—	13
Open haemorrhoidectomy	—	—	14	14	28
Closed haemorrhoidectomy	—	—	14	14	28
Stapled haemorrhoidopexy	—	—	14	—	14
Total	26	54	42	28	150
DHAL/DGHAL: Doppler-guided haemorrhoidal artery ligation/dearterialisation.					

Operative duration: Mean operative duration differed significantly across procedures. Rubber band ligation had the shortest mean duration (12.4 ± 2.1 min), followed by laser haemorrhoidoplasty (18.5 ± 3.2 min), stapled haemorrhoidopexy (32.8 ± 5.4 min), open haemorrhoidectomy (44.6 ± 8.2 min) and closed haemorrhoidectomy (48.2 ± 7.9 min). The difference was statistically significant on ANOVA ($F = 42.6$, $p < 0.001$).

Table 5: Mean operative duration by procedure

Procedure	Mean operative duration (min), mean ± SD
Rubber band ligation	12.4 ± 2.1
Laser haemorrhoidoplasty	18.5 ± 3.2
Stapled haemorrhoidopexy	32.8 ± 5.4
Open haemorrhoidectomy	44.6 ± 8.2
Closed haemorrhoidectomy	48.2 ± 7.9
ANOVA: $F = 42.6$, $p < 0.001$.	

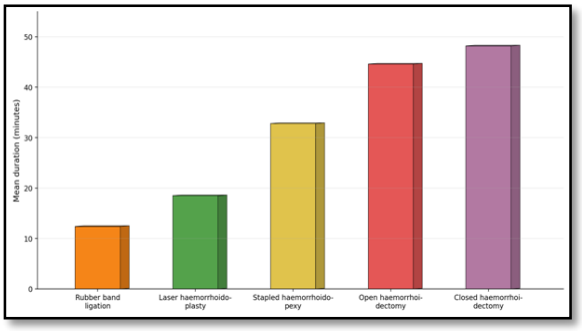

Figure 2: Mean operative duration by procedure.

Postoperative pain at 24 hours: Laser haemorrhoidoplasty had the lowest mean 24-hour VAS score (2.1 ± 0.3, mean ± SE), followed by DHAL/DGHAL (3.2 ± 0.4), stapled haemorrhoidopexy (4.6 ± 0.5), closed haemorrhoidectomy (7.2 ± 0.7) and open haemorrhoidectomy (7.8 ± 0.8).Compared with open haemorrhoidectomy, postoperative pain was significantly lower after laser haemorrhoidoplasty, DHAL/DGHAL and stapled haemorrhoidopexy. There was no significant difference between open and closed haemorrhoidectomy.

Table 6: Postoperative pain scores at 24 hours

Procedure	Mean VAS score	Standard error
Laser haemorrhoidoplasty	2.1	0.3
Stapled haemorrhoidopexy	4.6	0.5
DHAL/DGHAL	3.2	0.4
Open haemorrhoidectomy	7.8	0.8
Closed haemorrhoidectomy	7.2	0.7

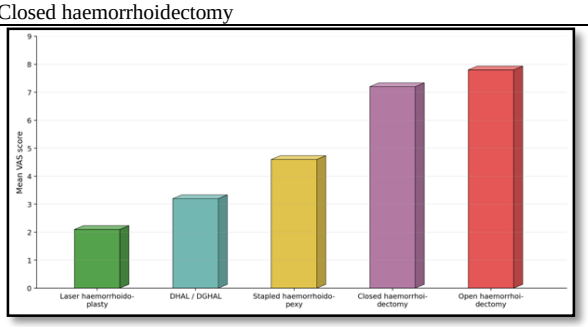

Figure 3: Postoperative pain scores at 24 hours.

Recovery and 30-day relief: Laser haemorrhoidoplasty had the shortest mean recovery time (4.2 ± 1.2 days), followed by DHAL/DGHAL (5.8 ± 1.5 days), stapled haemorrhoidopexy (8.6 ± 2.4 days) and haemorrhoidectomy (15.4 ± 3.5 days). Percentage relief at 30 days was 96% after laser haemorrhoidoplasty, 94% after DHAL/DGHAL, 92% after stapled haemorrhoidopexy and 98% after haemorrhoidectomy.

Table 7: Recovery and symptom relief according to treatment modality

Treatment modality	Mean days to recovery	Percentage relief at 30 days	p-value compared with haemorrhoidectomy
Laser haemorrhoidoplasty	4.2 ± 1.2	96%	$p < 0.01$
Stapled haemorrhoidopexy	8.6 ± 2.4	92%	$p < 0.05$
DHAL/DGHAL	5.8 ± 1.5	94%	$p < 0.01$
Haemorrhoidectomy	15.4 ± 3.5	98%	—

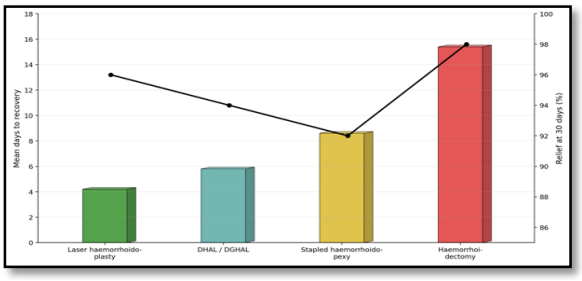

Figure 4: Recovery and 30-day symptom relief.

Systemic and clinical factors associated with surgical delay: Absence of digital rectal examination or proctoscopy was observed in 52 patients (34.67%) and showed a statistically significant association with surgical delay ($p < 0.001$). Diabetic enteropathy with constipation was present in 28 patients (18.67%, $p < 0.05$), portal hypertension in 12 patients (8.00%, $p < 0.05$) and bleeding disorders unrelated to haemorrhoids in 6 patients (4.00%, $p > 0.05$).

Table 8: Systemic and clinical factors associated with surgical delay

Factor	Frequency (n)	Percentage (%)	p-value
Absence of DRE/proctoscopy	52	34.67	$p < 0.001$
Diabetic enteropathy with constipation	28	18.67	$p < 0.05$
Portal hypertension	12	8.00	$p < 0.05$
Bleeding disorders unrelated to haemorrhoids	6	4.00	$p > 0.05$
DRE: digital rectal examination.			

Efficacy of anal dilators in patients with fissure: Among patients with Grade I or II haemorrhoids associated with anal fissure, outcomes were compared between patients managed with and without anal dilators. Reduction in sphincter spasm was higher with dilators (85.7% vs 42.8%, $p < 0.05$). Fissure healing at 6 weeks was also higher with dilators (92.0% vs 61.0%, $p < 0.05$). Mean VAS pain score was lower with dilators (1.8 vs 4.2, $p < 0.01$), and patient satisfaction was higher (94% vs 72%, $p < 0.05$).

Table 9: Efficacy of anal dilators in Grade I and II haemorrhoids with anal fissure

Outcome metric	With dilators (n=7)	Without dilators (n=7)	p-value
Reduction in sphincter spasm	85.7%	42.8%	$p < 0.05$
Fissure healing at 6 weeks	92.0%	61.0%	$p < 0.05$
Mean pain score, VAS	1.8	4.2	$p < 0.01$
Patient satisfaction	94%	72%	$p < 0.05$

Postoperative complications: Urinary retention occurred in 12 patients in the surgical group and 1 patient in the conservative group ($\chi^2 = 7.2$, $p < 0.01$). Postoperative bleeding occurred in 8 patients in the surgical group and 2 in the conservative group ($\chi^2 = 3.4$, $p > 0.05$). Anal stenosis occurred in 4 patients in the surgical group and none in the conservative group ($\chi^2 = 4.1$, $p < 0.05$). Minor recurrence was

recorded in 9 patients in the surgical group and 12 patients in the conservative group ($\chi^2 = 1.2$, $p > 0.05$).

Table 10: Postoperative complications in procedural/surgical and conservative groups

Complication	Surgical group	Conservative group	Chi-square (χ^2)	p-value
Urinary retention	12	1	7.2	$p < 0.01$
Postoperative bleeding	8	2	3.4	$p > 0.05$
Anal stenosis	4	0	4.1	$p < 0.05$
Minor recurrence	9	12	1.2	$p > 0.05$

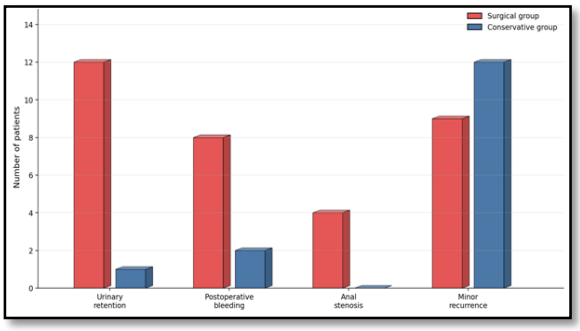

Figure 5. Postoperative complications.

Predictors of recurrence: Logistic regression showed that non-compliance with medication or diet was the strongest predictor of recurrence (OR 4.2, 95% CI 2.1–8.4, $p = 0.001$). Decreased fluid intake (OR 3.1, 95% CI 1.4–6.7, $p = 0.005$), prolonged toilet straining (OR 2.8, 95% CI 1.2–6.3, $p = 0.012$) and poor sitz bath compliance (OR 2.2, 95% CI 1.1–4.5, $p = 0.035$) were also significant predictors.

Table 11: Logistic regression analysis for predictors of recurrence

Predictor factor	Odds ratio	95% confidence interval	p-value
Non-compliance with medication/diet	4.2	2.1–8.4	0.001
Decreased fluid intake	3.1	1.4–6.7	0.005
Prolonged toilet straining	2.8	1.2–6.3	0.012
Poor sitz bath compliance	2.2	1.1–4.5	0.035

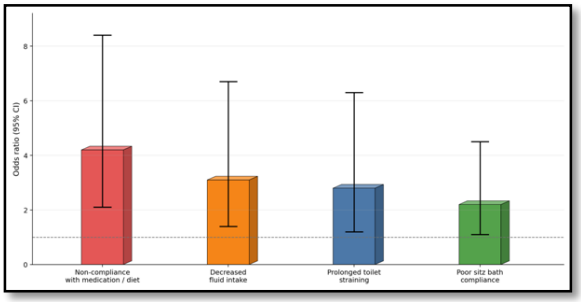

Figure 6: Logistic regression analysis of predictors of recurrence.

Glycaemic control and healing time:
HbA1c level had a strong positive correlation with healing time ($r = 0.74$, $p < 0.001$; regression slope $\beta = 2.5$). Duration of diabetes mellitus also showed a positive correlation with healing time ($r = 0.52$, $p < 0.01$; $\beta = 1.2$). Patient age showed a weak and statistically non-significant correlation with healing time ($r = 0.28$, $p > 0.05$; $\beta = 0.4$).

Table 12: Correlation of glycaemic control and clinical variables with healing time

Variable	Correlation coefficient (r)	p-value	Regression slope (β)
HbA1c level	0.74	$p < 0.001$	2.5
Duration of diabetes mellitus	0.52	$p < 0.01$	1.2
Patient age	0.28	$p > 0.05$	0.4

DISCUSSION

This prospective comparative study of 150 patients found that haemorrhoidal disease was more common among males and most frequently affected patients aged 31–45 years. Bleeding per rectum was the leading presentation, followed by prolapse or mass per anus. Grade II haemorrhoids were most common, followed by Grade III disease. Lower-grade haemorrhoids were managed with conservative and minimally invasive modalities, whereas Grade III and IV haemorrhoids were managed using operative techniques.

Mean operative duration varied significantly across procedures. Rubber band ligation and laser haemorrhoidoplasty had shorter procedural times, while open and closed haemorrhoidectomy required longer operative duration. Early postoperative pain was lowest after laser haemorrhoidoplasty and DHAL/DGHAL, and highest after open and closed haemorrhoidectomy. Recovery was fastest after laser haemorrhoidoplasty and delayed after haemorrhoidectomy. However, 30-day symptom relief was high after haemorrhoidectomy, indicating a trade-off between symptom relief, postoperative pain and recovery time.

The demographic and clinical findings are consistent with the established presentation of

haemorrhoidal disease, in which bleeding and prolapse are common symptoms.[1,2] The predominance of Grade II and III disease in this cohort is clinically relevant because these grades often require careful selection between office-based procedures, minimally invasive procedures and operative management.

Conventional haemorrhoidectomy remains a durable treatment for advanced haemorrhoids. The present study found higher postoperative pain and longer recovery after open and closed haemorrhoidectomy, consistent with the recognised morbidity of excisional procedures.[3,4] At the same time, symptom relief after haemorrhoidectomy was high, supporting its continued role in advanced or irreducible disease.

Rubber band ligation was associated with the shortest procedural duration in this study. It remains a widely used office-based procedure for selected lower-grade internal haemorrhoids.[5] However, recurrence and need for repeat treatment are important considerations. Large trials and guideline statements have emphasised that less invasive treatments may reduce early morbidity but may be associated with higher recurrence or need for further intervention in selected patients.[2,6-9]

Stapled haemorrhoidopexy showed lower pain than open haemorrhoidectomy in this cohort but longer recovery than laser haemorrhoidoplasty and DHAL/DGHAL. Earlier systematic reviews and pragmatic trials have reported reduced short-term pain with stapled haemorrhoidopexy, but concerns regarding recurrence and long-term comparative effectiveness remain.[7,8] Systematic review evidence has similarly reported short-term recovery advantages after stapled haemorrhoidopexy, with concerns regarding recurrence and long-term durability.[12]Therefore, stapled haemorrhoidopexy requires appropriate patient selection, particularly in prolapsing disease where technical adequacy is essential.

The lower pain and faster recovery observed after laser haemorrhoidoplasty are consistent with the minimally invasive nature of the procedure. Published cohort data have reported low postoperative pain and acceptable short-term outcomes after laser haemorrhoidoplasty, although long-term comparative data remain less mature than those for excisional techniques.[10] Similarly, DHAL/DGHAL aims to reduce vascular inflow and preserve anodermal integrity, but recurrence risk depends on disease grade, prolapse component and associated mucopexy or repair.[9]

These findings suggest that treatment selection should be guided by haemorrhoid grade, symptom severity and patient-related factors. Conservative management and office-based procedures remain appropriate for selected lower-grade disease. Minimally invasive techniques may be useful when early recovery and lower postoperative pain are important treatment priorities. Excisional haemorrhoidectomy remains relevant for Grade III and IV disease, particularly where prolapse is advanced, irreducible or associated with significant external components.

The recurrence analysis highlights the importance of postoperative behavioural modification and compliance. Non-compliance with medication or diet, poor fluid intake, prolonged toilet straining and inadequate sitz bath compliance were significant predictors of recurrence. These findings support structured postoperative counselling regarding diet, hydration, bowel habits and local care.

The positive association between HbA1c and healing time is clinically important. Poor glycaemic control may delay wound healing and should be optimised before and after operative treatment wherever feasible. The association was stronger for HbA1c than for duration of diabetes mellitus or age, suggesting that current glycaemic control may be more relevant to wound recovery than age alone.

Strengths and limitations: The strengths of this study include prospective design, inclusion of 150 patients, grade-based analysis, comparison of multiple treatment modalities and assessment of clinically relevant outcomes including pain, recovery, complications, recurrence predictors and glycaemic correlation. The study assessed clinically relevant endpoints, including postoperative pain, recovery, complications, recurrence predictors and glycaemic correlation.

The limitations include single-centre design and short follow-up at 10 and 30 days for early outcomes. Long-term recurrence and durability of treatment require longer follow-up. Allocation to treatment was clinical rather than randomised, so selection bias cannot be excluded. Cost-effectiveness and quality-of-life outcomes were not assessed using detailed standardised instruments, which limits interpretation of these endpoints.

CONCLUSION

Haemorrhoidal disease in this cohort most commonly affected males and patients aged 31–45 years, with bleeding per rectum as the dominant presenting symptom. Grade II haemorrhoids were the commonest grade. Minimally invasive procedures, particularly laser haemorrhoidoplasty and DHAL/DGHAL, were associated with lower early postoperative pain and faster recovery, while haemorrhoidectomy had longer recovery but high 30-day relief. Recurrence was significantly associated with non-compliance, reduced fluid intake, prolonged toilet straining and poor sitz bath compliance. Higher HbA1c was strongly correlated with delayed healing. Treatment selection should be guided by haemorrhoid grade, symptom pattern, comorbidity and expected recovery profile.

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