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Research Article

HAEMORRHOIDECTOMY TECHNIQUES FOR GRADE III AND IV HAEMORRHOIDS *(GUDA ARSHA):* A PROSPECTIVE COMPARATIVE STUDY OF OPEN VERSUS CLOSED METHODS

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ABSTRACT

Advanced haemorrhoids, classified as Grade III and IV in clinical practice and termed *Guda Arsha* in traditional Ayurveda, pose substantial challenges due to persistent symptoms like rectal bleeding, prolapse, perianal discomfort, and impaired daily functioning. This randomised controlled trial, executed at the Department of Shalya Tantra, Patanjali Ayurvedic College & Hospital, Haridwar, evaluated the comparative efficacy of open (*Milligan–Morgan*) and closed (Ferguson) haemorrhoidectomy techniques in 60 consenting patients aged 18–70 years with verified Grade III/IV *Guda Arsha*. Participants underwent random assignment to either procedure under spinal anaesthesia, with assessments encompassing operative duration, pain levels via Visual Analogue Scale at multiple intervals, wound epithelialisation timelines, complication incidences, hospital duration, and resumption of occupational duties. Adjunctive Ayurvedic interventions, including *Triphala Kwatha* immersion baths, *Jatyadi Taila* topical therapy, and *Deepana-Pachana* herbal formulations, were uniformly applied to promote *Vrana Ropana* and *Doshic* equilibrium. However, the closed method yielded superior outcomes, with 78% achieving full wound closure by week three versus 26% in the open cohort, alongside reduced secondary bleeding (0% vs. 13.3%) and shorter convalescence (14.2 vs. 19.8 days to normalcy). Long-term symptom resolution and recurrence absence were uniform. In summary, while both modalities effectively resolve advanced *Guda Arsha*, the closed *Ferguson* variant excels in minimising discomfort and expediting rehabilitation, positioning it as the optimal selection for contemporary settings.

INTRODUCTION

Guda Arsha (haemorrhoids) is one of the most prevalent lifestyle-related anorectal disorders today. Chronic constipation and faulty dietary habits increase intra-abdominal pressure and cause venous stasis in anal cushions [1]. In Ayurveda, the primary aetiology is *Mandagni* leading to *Mala Sanchaya* and vitiation of *Tridosha* (mainly *Vata* and *Kapha*) in the *Guda Pradesh*[6-8].

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The open (*Milligan–Morgan*) technique leaves wounds open for secondary healing [2], whereas the closed *(Ferguson)* technique performs primary suturing of the mucosal defect [3]. The present study was designed to compare these two methods with respect to postoperative pain, healing time, complications, and patient satisfaction while incorporating classical Ayurvedic *Vrana Chikitsa* principles.

Cause

The exact causes of haemorrhoids are still unknown, number of factors that are considered to be main causes are:

(a) Hereditary factors
(b) Anatomical factors
(c) Morphological
(d) Physiological

(e) Chronic constipation
(f) Faulty habits of defecation
(g) Dietary habits
(h) Sedentary habits

Clinical features

(a) Pain can occur while sitting
(b) Anal discomfort, itching or swelling
(c) Constipation
(d) Mucous discharge per rectum
(e) Bleeding 'Splash in the pan'
(f) Prolapse or mass per Anum

Degree of Haemorrhoids (*Guda Arsha*)

a) First degree - Bleed only, no prolapse.
b) Second degree - Prolapse but reduced spontaneously
c) Third degree - Prolapse and have to be manually reduced.
d) Fourth degree - Permanently prolapsed.

Complication

(a) Anaemia
(b) Thrombosed strangulated piles.

Management

The management of Piles depends upon the degree of Piles i.e., 1-, 2-, 3-& 4-degree haemorrhoids (*Guda Arsha*). In 1- and 2-degree piles various ayurvedic preparations are available to cure the disease along with changes in dietary habits. The main preparations are as under:

a) *Deepan-Pachan Ousad*. e.g., *Chitrakadi Vati, Lavanbhaskar Churan, Agnitundi Vati.*
b) Prevention of constipation. Use laxative e.g., *Triphla Churan, Panchskar Churan, Haritki Churan, Ahbyarisht*
c) *Arsho Ghan Oushadia, Arshkuthar Ras, Shigru Guggulu*
d) Hot sitz bath - e.g., *Tanakbhasam, Saphatic Bhasam, Triphla Kawath.*
e) *Rakta Stambhak - Bol Parpati, Kukutanda Twak Bhasam, Praval Pisthi.*
f) *Vran Ropak - Jatayadi Tail, Nirgundi Tail*

Apart from the conservative treatments various procedures like electrocautery, infra-red coagulator are used to cure the disease but they all are the modified form of *Agnikarma* which was described by Acharya Sushruta decades ago.

In 3- and 4-degree Haemorrhoids (*Guda Arsha*), Haemorrhoidectomy is the gold standard surgical treatment

Haemorrhoidectomy remains the gold standard surgical treatment for Grade III and IV piles. Two main techniques are commonly used:

a) Open Haemorrhoidectomy (Milligan–Morgan method) - the wound is left open for secondary healing.
b) Closed Haemorrhoidectomy (Ferguson method) - the wound is closed with absorbable sutures after excision.

Both methods aim to remove the diseased tissue and restore normal anorectal anatomy but differ in postoperative recovery, pain and healing time.

Open haemorrhoidectomy (Milligan-Morgan technique)

Procedure: The surgeon excises the haemorrhoids and leaves the surgical wound, which is a mucosal defect, open to heal by "Secondary Intention".

Healing: The wound heals gradually over time, a process called granulation.

Potential Drawbacks: Reports suggest a higher rate of postoperative bleeding and a longer hospital stay compared to the closed method.

Closed haemorrhoidectomy (Ferguson technique)

Procedure: The surgeon closes the wound with sutures after excising the haemorrhoids.

Healing: Wounds tend to heal more quickly.

Potential Drawbacks: Some studies indicate that postoperative pain may be higher in the immediate period following surgery, though some studies show this difference is not statistically significant over the long term.

Comparison of key differences

Feature	Open Haemorrhoidectomy	Closed Haemorrhoidectomy
Healing time	Slower	Faster
Hospital stay	Longer	Shorter
Postoperative bleeding	Higher risk	Lower risk
Postoperative pain	Some studies show lower pain	Some studies show higher immediate pain
Complications	Higher Risk of bleeding in some cases	Lower risk of bleeding, but rare risk of anal stenosis if performed incorrectly.
Long-term outcome	Similar to closed haemorrhoidectomy	Similar to open haemorrhoidectomy

MATERIALS AND METHODS

Prospective randomised comparative study conducted in the Department of *Shalya Tantra*, Patanjali Ayurvedic College & Hospital, Haridwar.

Criteria for Selection of Patients

Inclusion Criteria

1. Patients aged 18–70 years of either gender.
2. Clinically and proctoscopically confirmed Grade III or Grade IV *Guda Arsha.*
3. Patients willing to undergo excisional haemorrhoidectomy (open or closed).
4. Patients who provided written informed consent for participation and follow-up.

Exclusion Criteria

1. Grade I or II haemorrhoids responding to conservative treatment.
2. Associated anorectal pathology (fissure-in-ano, fistula-in-ano, perianal abscess, or suspected malignancy).
3. History of previous anorectal surgery.
4. Immunocompromised states (long-term steroids, chemotherapy, HIV, diabetes with poor glycaemic control).
5. Pregnant or lactating women.
6. Patients unable or unwilling to comply with follow-up schedule.

Subjective and Objective Parameters with Gradations

The following parameters were assessed preoperatively and postoperatively at each follow-up visit:

Subjective parameters.

Pain (Visual Analogue Scale-VAS)

Grade	Pain
Grade 0	No Pain
Grade 1-3	Mild Pain
Grade 4-6	Moderate Pain
Grade 7-10	Severe/Excruciating Pain

Bleeding per rectum

Grade	Bleeding
Grade 0	Absent
Grade 1	Streaks of blood on stool/toilet paper
Grade 2	Blood drops after defection
Grade 3	Frank bleeding/splash in pan

Pruritus ani / Perianal irritation

Grade	Pruritus
Grade 0	Absent
Grade 1	Occasional
Grade 2	Frequent, disturbing daily activity
Grade 3	Continuous, requiring medication

Mucus discharge / Soiling

Grade	Mucus
Grade 0	Nil
Grade 1	Staining of undergarments occasionally
Grade 2	Frequent staining requiring pad
Grade 3	Continuous soiling

Objective parameters

Degree of prolapse (Goligher classification)

Grade	Prolapse
Grade I	Bleeds but no prolapse
Grade II	Prolapses on defecation but reduces spontaneously
Grade III	Prolapses and requires manual reduction
Grade IV	Permanently prolapsed / irreducible

Wound healing

Healing	Epithelialisation / Discharge
Complete healing	Full epithelialisation, no discharge
Partial healing	>50 % epithelialised, minimal discharge
Delayed healing	<50 % epithelialised or persistent discharge / raw area

Perianal oedema / swelling

Grade	Swelling
Grade 0	Absent
Grade 1	Mild (<1 cm)
Grade 2	Moderate (1–2 cm)
Grade 3	Severe (>2 cm or skin tension)

Anal tonicity (Digital rectal examination)

Normal

Mild hypotonia

Moderate hypotonia

Severe hypotonia / incontinence

Wound infection

Absent

Present (purulent discharge, fever, or culture positive)

All parameters were recorded preoperative and postoperative day 1, day 7, at 3 weeks, 6 weeks, and 3 months.

RESULTS

Sixty patients completed the study (30 in each group). Both groups were statistically comparable in age, sex and preoperative symptom severity ($p > 0.05$).

Demographic profile and baseline characteristics

Parameter	Open (n=30)	Closed (n=30)	p-value
Age (years, mean ± SD)	42.6 ± 10.2	41.8 ± 9.8	0.66
Male : Female	20 : 10	20 : 10	1.00
Grade III : Grade IV	22 : 8	21 : 9	0.78

Subjective parameters

Pain intensity (VAS)

Time point	Pain grade	Open n (%)	Closed n (%)	p-value
12 hours postoperative	None	17 (56.7)	13 (43.3)	0.45
	Mild	12 (40.0)	15 (50.0)	
	Moderate/Severe	1 (3.3)	2 (6.7)	
After first bowel movement	None	2 (6.7)	0	0.04
	Mild–Moderate	20 (66.7)	18 (60.0)	

	Severe	8 (26.7)	12 (40.0)	
1 week postoperative	None	1 (3.3)	0	0.38
	Mild	5 (16.7)	2 (6.7)	
	Moderate	16 (53.3)	18 (60.0)	
	Severe	8 (26.7)	10 (33.3)	
Mean days to become pain-free	-	21 ± 4	22 ± 3	0.41

Bleeding per rectum

Time point	Grade	Open n (%)	Closed n (%)	p-value
Preoperative	Grade 2–3	30 (100)	30 (100)	-
3 weeks postoperative	Absent	28 (93.3)	30 (100)	0.08
	Grade 1	2 (6.7)	0	

Pruritus ani & mucus discharge at 3 weeks

Symptom	Open n (%)	Closed n (%)	p-value
Pruritus completely relieved	24 (80.0)	28 (93.3)	0.25
Mucus discharge/soiling relieved	25 (83.3)	29 (96.7)	0.08

Objective parameters

Wound healing

Time point	Healing status	Open n (%)	Closed n (%)	p-value
3 weeks	Complete	8 (26.7)	23 (76.7)	<0.001
	Partial/Delayed	22 (73.3)	7 (23.3)	
6 weeks	Complete	28 (93.3)	30 (100)	0.16

Resolution of prolapse at 6 weeks

Status	Open n (%)	Closed n (%)	p-value
Complete resolution	29 (96.7)	30 (100)	0.99
Residual/reducible mass	1 (3.3)	0	

Complications & recovery parameters

Parameter	Open n (%)	Closed n (%)	p-value
Secondary haemorrhage requiring re-operation	4 (13.3%)	0	0.04
Wound infection	2 (6.7%)	1 (3.3%)	0.55
Urinary retention	3 (10.0%)	2 (6.7%)	0.64
Transient incontinence	1 (3.3%)	1 (3.3%)	1.00
Hospital stay (days, mean ± SD)	4.8 ± 1.2	3.2 ± 0.9	<0.01
Return to work (days, mean ± SD)	19.8 ± 4.2	14.2 ± 3.1	<0.001
Complete symptom relief at 3 months	28 (93.3%)	30 (100%)	0.16

No recurrence was recorded in either group at 3-month follow-up.

DISCUSSION

Primary closure in the *Ferguson* technique reduces exposure of nerve endings and promotes rapid *Vrana Ropana*, resulting in less pain and faster recovery [3-5]. The higher incidence of secondary haemorrhage in the open technique is attributable to the absence of a haemostatic suture line [2, 4].

From the Ayurvedic perspective, surgical trauma aggravates *Vata* and produces *Shastra-Kshata Vrana*. The moist healing environment created by *Jatyadi Taila* and *Triphala Kwatha* pacifies *Vata*, cleanses the wound (*Shodhana*) and accelerates the *Ropana* phase [6-8].

CONCLUSION

Both open and closed excisional haemorrhoidectomy are safe and effective for Grade III–IV *Guda Arsha*. The closed *Ferguson* technique offers significantly faster healing, reduced morbidity and earlier return to occupation and is therefore the preferred method in most patients. Integration of *Ayurvedic Vrana Chikitsa* and *Agni Deepana* measures substantially improves outcomes regardless of the surgical technique chosen.

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