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Parikartika and Its Ayurvedic Management: A Comprehensive Review and Proposed Integrative Algorithm

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Abstract

Parikartika, a classical Ayurvedic entity, presents a striking clinical parallel to fissure-in-ano, characterized by tearing anal pain, bleeding, and sphincteric spasm. Its pathogenesis is rooted in the vitiation of Vata and Pitta doshas, often secondary to Agnimandya (diminished digestive fire) and the resulting passage of hard stools. This review synthesizes the classical Ayurvedic understanding of Parikartika with contemporary clinical evidence to propose an integrative management algorithm. The management principles focus on Samprapti Vighatana (breaking the pathogenetic chain) through Agni restoration (e.g., Deepana-Pachana herbs), Anulomana (mild laxation e.g., Triphala), and Vata-Pitta pacification. Topical medicated formulations like Jatyadi Taila and Yashtimadhu Ghrita demonstrate efficacy comparable to conventional topical agents (e.g., lignocaine-nifedipine) in promoting healing and pain relief in acute fissures. For chronic fissures, the para-surgical Ksharasutra (medicated seton) technique offers a sphincter-sparing alternative to Lateral Internal Sphincterotomy (LIS), with high healing rates albeit a slower recovery profile.

Keywords: Parikartika, Ayurveda, Ksharasutra, Jatyadi Taila, Integrative Medicine, Sphincter-Sparing Surgery, Shalya Tantra.

1. Introduction

Fissure-in-ano is a common proctological condition affecting individuals across all age groups, with an estimated lifetime prevalence of around 11% [1]. It is defined as a longitudinal tear in the anoderm distal to the dentate line, leading to a classic triad of symptoms: severe, cutting pain during and after defecation, bright red rectal bleeding, and anal sphincter spasm [2, 3]. Acute fissures (<6 weeks duration) typically have sharp margins and a base lined by circular muscle fibers, while chronic fissures (>6 weeks) develop indurated edges, a sentinel pile, and a hypertrophied anal papilla, perpetuating a vicious cycle of pain, spasm, and ischemia that impedes healing [4, 5].

The contemporary understanding of fissure pathogenesis centers on the "fissure-spasm-ischemia" model, where hypertonicity of the internal anal sphincter (IAS) leads to reduced blood flow in the posterior commissure, making it susceptible to traumatic tearing and subsequent non-healing [6]. First-line treatment involves conservative measures like fiber supplementation, warm Sitz baths, and topical agents such as calcium channel blockers (e.g., diltiazem) or nitrates (e.g., glyceryl trinitrate - GTN) to chemically relax the IAS [7, 8]. For refractory cases, Botulinum toxin injections or surgical interventions, most

notably Lateral Internal Sphincterotomy (LIS), are employed, offering high cure rates but carrying a small yet significant risk of permanent incontinence [9, 10].

In the Ayurvedic system of medicine, this clinical entity is comprehensively described under the term **Parikartika** (Sanskrit: *Pari* - around, *Kartika* - cutting or tearing). The earliest and most detailed references are found in the Sushruta Samhita, where it is meticulously documented as a potential complication of Panchakarma (bio-purification) procedures, especially therapeutic purgation (Virechana) and medicated enema (Basti) [11]. The renowned commentator Dalhana, in his Nibandhasangraha, elucidates that the use of an improperly lubricated or harsh enema nozzle can traumatize the anal canal, leading to Parikartika [12]. Subsequent classical authorities like Charaka and Vagbhata further elaborated on its etiology and management, often classifying it based on the predominant Doshic involvement and associating it with systemic conditions like Jwara (fever), where the digestive power is compromised [13, 14].

The Ayurvedic pathophysiology (Samprapti) of Parikartika is a nuanced process that extends beyond the local trauma. The primary seat of the disease is the Guda (anus and rectum), considered the primary site of **Apana Vata**, the sub-dosha governing downward and excretory functions [15]. Etiological factors (Nidana) such as suppression of natural urges (Vega varodha), especially of defecation, intake of dry, cold, and rough foods (Ruksha, Sheeta, Laghu Ahar), and excessive physical exertion lead to the aggravation of Vata [16]. This is frequently compounded by Pitta vitiation, often due to the intake of hot, spicy, and acidic substances, contributing to Daha (burning sensation) and Rakta Dushti (vitiation of blood tissue), manifesting as bleeding [17].

The cornerstone of the pathogenesis is **Agnimandya** (diminished digestive fire). A compromised Agni leads to the formation of **Ama**, a poorly digested, toxic, and sticky metabolic residue [18]. Ama, in turn, obstructs the bodily channels (Srotas), further aggravating Vata and leading to **Purishavarodha** (constipation) [19]. The passage of these hard, dry stools (Mala) traumatically tears the delicate anal lining, initiating the fissure. The ensuing pain (Shoola) further vitiates Vata, causing intense sphincter spasm (Stambha), which compromises local blood flow and Rasa-Rakta Dhatu (nutrient and blood tissue) supply, creating a self-perpetuating cycle of impaired healing, closely mirroring the modern ischemic model [20, 21].

This paper aims to bridge the profound wisdom of Ayurveda with the rigors of evidence-based modern medicine. It will:

1. Systematically delineate the classical etiology, pathogenesis, and classification of Parikartika.
2. Critically appraise the spectrum of Ayurvedic management strategies, from dietary and herbal interventions to topical and para-surgical procedures, synthesizing available clinical evidence.
3. Compare and contrast the efficacy and safety of key Ayurvedic interventions (e.g., Ksharasutra) with conventional standards of care (e.g., LIS).
4. Propose a practical, phased, integrative algorithm for the management of anal fissures, positioning Ayurvedic modalities within the contemporary surgical care spectrum to optimize patient outcomes, enhance patient choice, and minimize procedural risks.

2. Results: Synthesis of Classical and Contemporary Evidence

2.1. Classical Foundations of Parikartika

The classical descriptions of Parikartika provide a robust framework for its understanding. Sushruta, in the Chikitsasthana, explicitly lists it as a complication of Basti, underscoring the importance of proper

technique and instrumentation [11]. Charaka, in the Chikitsasthana chapter on Grahani (malabsorption syndromes), mentions Parikartika as a symptom, linking it directly to underlying digestive dysfunction [13]. Vagbhata, in the Ashtanga Hridaya Nidanasthana, provides a concise definition, describing the cardinal symptom of "Kartana" or cutting pain [14].

Etiological Factors (Nidana): A synthesis of texts reveals common causative factors:

- **Aharaja (Dietary):** Excessive intake of dry (Ruksha), cold (Sheeta), light (Laghu), and pungent (Katu) foods; irregular dietary habits; insufficient hydration [22].
- **Viharaja (Lifestyle):** Suppression of natural urges, especially defecation (Purisha Vega varodha); excessive straining during defecation; prolonged sitting on hard surfaces; traumatic injury to the anal region [23].
- **Iatrogenic:** Complications from Ayurvedic purification therapies (Shodhana) like Virechana and Basti, often due to improper drug selection, dose, or technique [12].
- **Systemic:** As a sequel to conditions like Jwara (fever) or Raktapitta (bleeding disorders) where Agni and Rakta Dhatu are severely compromised [13, 24].

Pathogenesis (Samprapti): The Samprapti unfolds in a sequential manner:

1. **Provocation of Etiological Factors:** The consistent exposure to Nidana.
2. **Agnimandya and Ama Formation:** The primary trigger, leading to impaired digestion and Ama genesis.
3. **Vata and Pitta Prakopa:** Ama obstructs Srotas, leading to the aggravation of Vata (especially Apana Vata) and Pitta.
4. **Purishavarodha:** Vitiated Apana Vata disrupts the normal downward movement, resulting in the formation of hard, dry stools.
5. **Guda Chidra (Local Tear):** The traumatic passage of hard stools causes a tear in the anal mucosa.
6. **Vicious Cycle (Shat Kriya Kala):** The tear causes Shoola (pain), which further aggravates Vata, leading to Sphincter Stambha (spasm), Dhatu Kshaya (tissue depletion), and impaired Vrana Ropana (wound healing), establishing chronicity [25, 26].

2.2. Evidence for Ayurvedic Interventions

2.2.1. Systemic and Conservative Management (Shamana Chikitsa)

The primary aim is Samprapti Vighatana. Key strategies include:

- **Agnideepana and Ama Pachana:** Restoration of digestive fire is paramount. Langhana (lightening therapy, e.g., fasting or light diet) and herbs like **Trikatu** (Piper longum, Piper nigrum, Zingiber officinale) are first-line interventions to kindle Agni and digest Ama [27]. A clinical study by Khedkar et al. (2023) demonstrated that a protocol starting with Deepana-Pachana herbs led to significant improvement in constipation and associated pain in patients with ano-rectal disorders [28].
- **Anulomana (Mild Laxation):** To break the cycle of hard stools, gentle laxatives are essential. **Triphala**, a Rasayana (rejuvenative) formulation of three myrobalans, is the cornerstone. It promotes gentle bowel evacuation without causing dependency or cramping, unlike many stimulant laxatives [29]. Research by Peterson et al. (2017) has highlighted its anti-inflammatory, antioxidant, and gentle laxative properties, making it ideal for long-term management [30].

- **Internal Medications (Yukti Vyapashraya):** Based on Doshic predominance, specific formulations are used. For Vataja conditions, Vata-shamaka drugs like Gandharvahastadi Kwatha are used [31]. For Paittika presentations with pronounced burning and bleeding, cooling herbs like **Yashtimadhu** (Glycyrrhiza glabra), **Sariva** (Hemidesmus indicus), and formulations like **Kamadudha Rasa** are beneficial [32]. **Avipattikar Churna**, a classical formulation for Pittaja constipation, has shown efficacy in improving bowel habits and reducing anal discomfort in clinical settings [33].

2.2.2. Topical and Local Therapies (Bahya Chikitsa)

Local applications aim to reduce pain, inflammation, promote granulation tissue formation (Ropana), and relax sphincter spasm.

- **Jatyadi Taila:** This polyherbal oil is a gold-standard topical agent in Ayurvedic wound care. Its ingredients, including Neem (Azadirachta indica), Turmeric (Curcuma longa), Daruharidra (Berberis aristata), and Lodhra (Symplocos racemosa), possess documented anti-inflammatory, antimicrobial, and angiogenic properties [34]. A prospective case series by Sewda et al. (2024) on 45 patients with acute fissures reported a 92% healing rate within 4 weeks with twice-daily application of Jatyadi Taila following warm Sitz baths, with significant reductions in pain scores (VAS) from baseline [35].
- **Yashtimadhu Ghrita:** Medicated ghee prepared with Licorice is renowned for its Shothahara (anti-inflammatory) and Vrana Ropana (wound healing) properties. A randomized controlled trial (RCT) by Patel & Dudhamal (2017) compared topical Yashtimadhu Ghrita (n=18) with a combination of lignocaine-nifedipine ointment (n=18) in patients with acute fissures [36]. The study found no statistically significant difference in pain relief ($p>0.05$) or fissure healing rates at the 4-week endpoint, establishing the non-inferiority of the Ayurvedic formulation. The Ghrita group also reported no adverse effects, unlike the transient headaches sometimes associated with nifedipine [36].

2.2.3. Para-surgical Interventions (Shastra-Kruta Anushastra)

For chronic, indurated fissures refractory to conservative care, Ayurveda offers sophisticated para-surgical techniques, with Ksharasutra being the most prominent.

- **Ksharasutra (Medicated Seton) Therapy:** This is a specialized thread impregnated with multiple layers of alkaline drugs (Kshara) like Apamarga (Achyranthes aspera) and natural latex. Its mechanism is multi-faceted: chemical cauterization (Kshara Karma), debridement (Lekhana Karma), and cutting (Chedana Karma) of the fissure bed and sentinel pile, while simultaneously promoting healing from the base upwards (Ropana Karma) [37].
- **Clinical Evidence for Ksharasutra:** An RCT by Dudhamal et al. (2014) on 100 patients with chronic fissures compared Ksharasutra ligation alone (Group A) versus Ksharasutra ligation with a single session of Lord's anal dilatation (Group B) [38]. The results significantly favored the combination group (Group B), which achieved 100% pain relief by day 14 compared to 86% in Group A. Furthermore, complete healing was observed in 100% of patients in Group B by the end of the study, compared to 68% in Group A ($p<0.01$), highlighting the synergistic effect of combining mechanical dilation with chemical seton [38].
- **Ksharasutra vs. Lateral Internal Sphincterotomy (LIS):** A pivotal RCT by Nakrani & Dudhamal (2019) directly compared Apamarga Ksharasutra (with anal stretching) to Open LIS in 30 patients with chronic fissures [39]. The study concluded that while both procedures were highly effective

in achieving healing, the LIS group experienced significantly faster relief from pain and bleeding in the immediate post-operative period. However, the authors noted that Ksharasutra presents a crucial advantage as a sphincter-sparing procedure, theoretically minimizing the long-term risk of incontinence—a recognized complication of LIS reported in 5-15% of cases, albeit often minor [39, 40].

Table 1: Summary of Key Clinical Studies on Ayurvedic Management of Parikartika

Study (Year)	Design	Population	Intervention	Comparator	Key Outcomes
Patel & Dudhamal (2017) [36]	RCT	N=36, Acute Fissure	Yashtimadhu Ghrita	Lignocaine-Nifedipine	**Non-inferiority:** Equivalent pain relief and healing rates at 4 weeks. No adverse events in Ghrita group.
Dudhamal et al. (2014) [38]	RCT	N=100, Chronic Fissure	Ksharasutra (KS)	KS + Lord's Dilation	**Superiority of Combo:** 100% healing in combo group vs. 68% in KS-alone. Faster pain relief with dilation.
Nakrani & Dudhamal (2019) [39]	RCT	N=30, Chronic Fissure	Apamarga Ksharasutra	Open LIS	**LIS faster, KS safer:** LIS provided quicker symptom relief. KS effective but slower; highlighted as sphincter-sparing.
Sewda et al. (2024) [35]	Case Series	N=45, Acute Fissure	Jatyadi Taila	-	**High Efficacy:** 92% healing rate within 4 weeks. Significant reduction in pain scores (VAS).
Sharma et al. (2021) [41]	Review	N/A	Triphala, Trikatu	-	**Mechanistic Support:** Compiled evidence for Agni-correction and gentle laxation as core principles.

3. Discussion

The management of Parikartika in Ayurveda is a testament to the system's holistic and stratified approach to disease, offering a complementary and often alternative pathway to conventional proctology. The fundamental emphasis on correcting Agnimandya and Ama at the outset addresses the systemic root of the problem, a dimension often overlooked in conventional algorithms that focus predominantly on the local sphincter spasm [42, 43]. The use of Triphala as a bowel regulator exemplifies this holistic view; it is not merely a laxative but a Rasayana that promotes overall health and regular evacuation without the risk of dependency [30, 44].

3.1. Integrating Topical Therapies into First-Line Care

The evidence for topical therapies, particularly Jatyadi Taila and Yashtimadhu Ghrita, is compelling enough to consider their integration as first-line options. Their multi-herb composition, targeting multiple pathways of inflammation, pain, and tissue repair, offers a natural and well-tolerated therapeutic strategy [35, 45]. The RCT by Patel & Dudhamal (2017) provides a robust foundation for this, demonstrating non-inferiority to a standard vasodilator regimen [36]. In practice, these agents could be offered as an alternative to patients who experience side effects from GTN (headaches) or diltiazem, or for those who prefer natural products. Their mechanism, which includes promoting granulation and epithelialization, may offer advantages beyond simple chemical sphincter relaxation [46].

3.2. Ksharasutra: A Sphincter-Sparing Paradigm in Chronic Fissure Management

The role of Ksharasutra is particularly significant in the contemporary era of minimally invasive and sphincter-sparing surgery. While LIS remains the gold standard for speed and efficacy, the risk of incontinence, though small, is a source of significant anxiety for patients and a tangible concern for surgeons, especially in females and patients with borderline sphincter function pre-operatively [47, 48]. Ksharasutra presents a viable "middle path" between prolonged, often ineffective pharmacotherapy and definitive sphincter-cutting surgery.

The studies by Dudhamal et al. (2014) and Nakrani & Dudhamal (2019), though from a single center, highlight its efficacy and unique safety profile [38, 39]. Its mechanism—a slow, controlled chemical sphincterotomy and subsequent healing—aligns perfectly with the modern goal of reducing resting anal pressure without causing permanent structural damage to the IAS [49]. The slower healing time, often cited as a drawback, can be framed as a trade-off for the preservation of continence, a choice many patients may willingly make after informed consent.

3.3. Proposed Integrative Management Algorithm

To translate this evidence into clinical practice, we propose a phased, patient-centric algorithm (Figure 1) that fosters collaboration between colorectal surgeons and Ayurvedic specialists.

Figure 1: Proposed Integrative Management Algorithm for Parikartika/Anal Fissure
(A flow chart depicting the following steps:)

1. **Phase 1: Assessment & Triage (Week 0-1)**
   - Comprehensive history, inspection, and necessary investigations to rule out secondary causes (e.g., Crohn's, malignancy).
   - Classify as Acute (<6 weeks) or Chronic (≥6 weeks).
   - **Multidisciplinary Review:** Involve Colorectal Surgeon and Ayurvedic Physician.
2. **Phase 2: First-Line Conservative Management (Weeks 1-6)**
   - **For ALL patients:** High-fiber diet, hydration, warm Sitz baths, stool softeners (Psyllium/Triphala).
   - **Topical Therapy (Choose one):**
     - *Conventional:* Diltiazem 2% or GTN 0.2-0.4% ointment.
     - *Ayurvedic:* Jatyadi Taila or Yashtimadhu Ghrita application BID.
   - **Re-assessment at 4 weeks.** If healed → maintenance. If not → Phase 3.

3. **Phase 3: Second-Line / Procedural Intervention (Week 6+)**
   - **For Chronic Fissures:**
     - **Conventional Gold Standard:** Lateral Internal Sphincterotomy (LIS). Discuss high success rate and incontinence risk.
     - **Ayurvedic Para-surgical Option:** Ksharasutra ligation. Ideal for patients concerned about incontinence risk.
     - **Other Option:** Botulinum Toxin injection.
   - **Informed Consent:** Detailed discussion of evidence, benefits, risks (especially incontinence vs. slower healing), and recovery for each option.

4. **Phase 4: Post-Procedural & Long-Term Care**
   - Wound care with topical Jatyadi Taila.
   - Continued bowel management with diet and Triphala.
   - Follow-up at 2, 6, and 12 weeks to assess healing and functional outcomes.

3.4. Limitations and Future Directions

The primary limitation of the current evidence base is the scarcity of large, multi-center, double-blind RCTs with long-term follow-up. Many studies, including the pivotal ones cited, are single-center trials published in Ayurvedic journals, which may be subject to bias [50]. There is also a critical need for standardization of herbal formulations (e.g., chromatographic profiling of Jatyadi Taila) and Ksharasutra preparation (e.g., standardizing the number of coats, alkalinity) to ensure reproducibility and consistent clinical outcomes [51].

Future research must focus on:

1. **Large, Pragmatic RCTs:** Comparing standardized Ayurvedic topical regimens head-to-head with GTN/diltiazem in diverse populations.
2. **Long-term Comparative Studies:** Assessing continence status, patient satisfaction, and recurrence rates 1-5 years after Ksharasutra versus LIS.
3. **Mechanistic Studies:** Employing modern pharmacological and molecular biological techniques to isolate active compounds and elucidate the precise mechanisms of these polyherbal formulations in wound healing and smooth muscle relaxation.
4. **Health Economics Research:** Evaluating the cost-effectiveness of integrating Ayurvedic protocols into standard care pathways.

4. Conclusion

Parikartika, the Ayurvedic correlate of fissure-in-ano, is a condition whose management beautifully illustrates the potential for synergy between traditional wisdom and modern scientific rigor. The Ayurvedic approach, which systematically addresses the underlying digestive impairment (Agnimandya), systemic Doshic imbalance, and local pathology, offers a comprehensive and holistic strategy that complements the organ-focused conventional model.

A growing body of evidence, though requiring further validation, supports the efficacy of topical herbal preparations like Jatyadi Taila and Yashtimadhu Ghrita in acute fissures and validates Ksharasutra as a potent, sphincter-sparing para-surgical option for chronic cases. The proposed integrative algorithm provides a pragmatic and ethical framework for clinicians, advocating for a patient-centered approach. It

starts with conservative, non-invasive measures and reserves procedural interventions for non-responders, offering a clear, informed choice between the speed of LIS and the continence preservation of Ksharasutra. By fostering genuine collaboration between colorectal surgeons and trained Ayurvedic specialists, this model can significantly enhance therapeutic outcomes, expand patient choices, minimize procedural risks, and pave the way for a more holistic, evidence-informed, and personalized future in proctological care.

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