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COMPREHENSIVE REVIEW ON FISSURE-IN-ANO W.S.R. TO *PARIKARTIKA*

Dwivedi Amarprakash [1*]

1.Professor, Shalyatantra Department, School of Ayurveda, DY Patil University, Navi Mumbai.

Abstract: Background-Anal fissure is defined as longitudinal ulcerative lesion or cut in the lower end of anal canal. Fissures are categorized as primary and secondary fissures. Anal fissure comprises of 10-15% of anorectal disorders and is characterized by excruciating pain during and after defecation, bleeding per anus with spasm of anal sphincter. In Ayurvedic view, based on resembling site of disease, nature of pathology and clinical manifestations, *Gudaparikartika* can be correlated to fissure-in- ano. **Method-** In this review article, information from modern surgery texts in view of definition, aetiology, patho-physiology, sign and symptoms and available treatment options as per stage of disease and a gist of contemporary texts of Ayurveda related to fissure –in ano (*Gudaparikartika*) have been documented to understand integrated and holistic treatment approach towards fissure –in ano management. **Result & Conclusion-** The article attempts to simplify fissure –in ano management and touches maximum aspects of this disease with an integrated approach. Hence, this review article will certainly prove useful to proctologist and researchers who wish to know about holistic fissure –in ano management.

Keywords: Fissure –in ano, Sphincterotomy, *Parikartika, Yashtimadhu tail, Matrabasti*

Corresponding Author:
Dr. Dwivedi Amarprakash,
Shalya Tantra Department,
School of Ayurveda, DY Patil University, Navi Mumbai.
E-mail: amar.dwivedi@dypatil.edu

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INTRODUCTION

The physical and mental health of an individual depends on his diet and life style. Similarly, about 30 % of the population suffer from Ano rectal problems at least once in their life. Fissure- in ano is the most common ailment encountered in day-to-day practice which comprises around 15% of anorectal disorders. Diet is an important factor in pathogenesis of fissure-inano and is characterized by excruciating pain during and after defecation, bleeding per anus with spasm of anal sphincter.The Allopathy treatment is primarily aimed to relax anal hyper-tonicity and sphincter spasm. In severe pain and burning sensation, local anesthetic ointment used (5% lignocaine) adjuvant to oral NSAIDs. Sometimes, glycerol trinitrate 0.2% ointment (nitric oxide donor) and Botulinum toxin is prescribed to relaxes anal resting pressures. However, if pain is unbearable, surgical intervention such as lateral sphinterectomy etc.is also practiced to relieve spasm and pain. Fissure-in ano can be correlated with *Gudaparikartika* based on similar location, pathology and clinical features.

In most of the Ayurvedic classical texts, the description about *'Parikartika'* is available as acquired condition such as complication of *Bastikarma, Bastinetravyapad* and *Virechana* which is characterized by *Kartanavat* and *Chedanavat shoola* in *Guda* (excruciating cutting pain in peri anal region) and not as an independent disease. *Parikartika* is treated with internal palliative medicines and local applications formulated by using *Madhura, Sheeta, Snigdha dravyas*. Local therapies in the form of *Anuvasanabasti, Picchabasti, Madhura, Kashaya dravya Siddha basti, tailapoorana, Lepa, Pichu dharana* are given prime importance in the management. This comprehensive review article simplifies fissure –in ano management and touches various aspects of this disease such as aetiology, patho-physiology, clinical features and treatment alternatives.

METHODOLOGY

In this review article, information from contemporary texts of modern surgery in view of definition, aetiology, patho-physiology, sign and symptoms and available treatment options as per stage of disease and a gist of Ayurvedic perspective related to *Gudaparikartika* with special reference to fissure -in ano have been documented to understand integrated management.

MODERN PERSPECTIVE:

Definition: Anal fissure is defined as longitudinal ulcer in the lower end of anal canal; initially appear as an acute tear in the mucosal lining of anal canal below the dentate line.[1]

Epidemiology and Clinical manifestation: Fissure –in ano is commonly seen at posterior midline, however, the prevalence in females is anterior 60% & 40% at posterior site. This is due to is variation in pelvic floor anatomy and loosening of support to the anterior anus during pregnancy of female.[2,3]

Types (fissure in ano):

1) Primary - Fissure is situated at midline of anus, mostly with traumatic aetiology.

2)Secondary –Located other than midline of anus, and seen in secondary diseases like ulcerative colitis, Crohn's disease, malignancy, syphilis,

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diabetes mellitus & trauma.

Clinical features:

1. Pain - after defecation constant up to 2-4 hours (burning or cutting in nature)
2. Hard stool –stony hard or pellet like stool.
3. Sentinel piles - present in chronic fissure in ano.
4. Bleeding - Bleeding is streak like on stool matter on a toilet paper.
5. Abscess – may be due to infection and injury to anal gland.
6. Itching - perianal area remains wet due to continuous discharge from ulcer which results in irritation or itching in perianal region.

Local examination - fissure is visible in midline.

Per Rectal Digital examination :it is difficult in acute condition, due to pain and proctoscopy is strictly contra- indicated in such painful condition. Patient may go in shock if done forcefully. However, in chronic condition -fissure, it is palpable, tenderness, spasm of sphincter can be noted. Hypertrophic anal papillae are associated with chronic anal fissures which is seen internally at the dentate line. It is a sentinel tag or pile. Fibres of the internal sphincter may be exposed at the base of the ulcer. On examination it is friable.

Pathogenesis: The underlying pathophysiology of anal fissure is complex. In Fissure-in-ano, there is a trauma to the lower anal canal caused by the movement of hard scybalous stool. Pain will be so severe that patient may avoid defecation for days together until it becomes inevitable. This leads to hardening of stools, which further tear the anoderm during defecation, setting a vicious cycle. The lower anal canal is supplied with the same somatic nerves which supply the sphincter muscles. So any irritation to the lower part of anal canal will cause these sphincters to go into spasm. Anal fissures consistently show that when these muscles are contracting too strongly, generate a pressure in the canal that it is abnormally high. And during defecation contraction pulls the edges of fissure apart and prevents the fissure from healing. Also this increased pressure and contraction will compress the blood vessels of anal canal and reduce the blood flow. This relative ischaemia further contributes in delaying the healing of ulcer. Thus, Fissure-in-ano is multifactorial it involves anodermalischaemia, infection, chronic constipation and hypertonicity of the smooth muscle of the internal anal sphincter and its elevated pressure. Constipation/ altered bowel habit leads to passing of hard stool/ frequent stool causes trauma to muco-cutaneous junction of anal canal called tear or acute fissure-in-ano. This may either heal or convert into chronic fissure-in-ano that further leads to stasis of fecal matter or infectious agent in chronic wound that results infection of the crypt of anal canal, further infection travels through anal gland to perianal region that leads to formation of abscess that bursts out and forms fistula-in-ano.

Non-surgical treatment:

The aim of conservative and palliative treatment is relaxing anal hyper-tonicity and give relief from trauma. In severe pain and burning sensation, local anaesthetic ointment used (5% lignocaine). Similarly, oral NSAIDs and Analgesics areprescribed. However, if pain is unbearable and not relieved with medicines, inferior haemorrhoidal nerve block can be tried for relief of pain. To relax hypertonic sphincter tone, Seitz bath with plain lukewarm water or mixed with Potassium per magnet (in pinch)

is advocated for relief in perineal pain.Topical application of glyceryl trinitrate 0.2% ointment (nitric oxide donor) has been shown to increase anoderm blood flow and relax sphincter tone (relieves pain). Healing of fissures has been noted in up to 60% of patients, with side-effects including headache and orthostatic hypotension. Botulinum toxin injected into the internal anal sphincter (muscle) relaxes anal resting pressures by binding to the pre-synaptic cholinergic receptor. In patients with chronic anal ulcers not responding to conservative management, 86–100% responded to botulinum injection. No adverse effects or permanent sphincter damage is observed, but the effects of botulinum toxin reverse in 3 months.

High fibre diet: Diet rich in fibre helps to improve symptoms of fissure -in ano. The rate of intestinal passage of food depends on the nature of the diet and its fluidity. The greater the indigestible residue and water content, the more rapidly it reaches the rectum and produces its distension and there after evacuation. Hence, patients should take daily fiber rich food and plenty of fluids to improve digestion and regularize bowels. These are hygroscopic, which allows them to expand and become mucilaginous. These fibers are a complex carbohydrate, which binds with water in the colon creating larger, softer, stool. Larger, softer, stools stretch and relax the sphincter muscles helping the blood to flow and it also require little pressure topass.

Surgical procedures:

1. **Anal dilatation (Lord's procedure)-**Manual dilation and relaxation of the anal sphincter under anesthesia is performed; however, the extent of traumatic rupture of the internal sphincter muscles is unpredictable.
2. **Fissure bed excision (Fissurectomy) -**This involves excision of the damaged skin from around anal fissure, along with any 'sentinel' skin tags. A triangular incision (v shaped) is made with a surgical knife, starting from anal margin on each site of the fissure. After removal of fibrous band from ulcer bed, edges of fissure sutured with chromic catgut (2.0)with interrupted suture. Further, fistulectomy is combined with lateral sphincterotomy or Botulinum injection. This has high success rate and recurrence rates are less than 5%. Complications include incontinence of flatus and soiling (less than 15% of patients) and anal stricture. Fortunately, these complications are temporary for most patients who experience them.
3. **Surgical lateral sphincterotomy**-Lateral sphincterotomy remains the gold standard for release of high anal sphincter tone and treatment of chronic anal fissure. Performed under local anaesthesia, the internal sphincter is divided from the dentate line to its distal most margin at either lateral position. This can be performed using either an open or closed technique. To avoid fistula formation, the anoderm and subcutaneous external sphincter should not be violated.

AYURVEDIC PERSPECTIVE:

The symptom of fissure resembles with *parikartika* mentioned in Ayurvedic classics. Sushruta has described condition named- *parikartika*, having ulcerative lesion in the anal canal (due to traumatic origin- *bastinetravyapad*) with clinical features such as cutting or burning pain in perianal region extending upto pelvic and groin. Further, Sushruta has mentioned *Parikartika* as one of the prodromal feature of hemorrhoids (*purvarup* of *Arsha*).[4] *Parikartika* is categorized as – *Vataj* and *Pittaj* types, wherein; *Vataj* has cutting -throbbing pain (vitiation of *Vata Dosha* i.e *Vataprakop* due to

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ruksha, khara, sukshma gun) and *Pittaj* type has severe burning sensation (vitiation of *Pitta Dosha* i.e *Pitta prakop* due to *Ushna, Tikshna gun*). The pathogenesis further consist of *Rasa Kshay, Raktadushti , Mansa Kshay* and *Mala – Purishadushti*.[5]

Conservative management in Ayurveda:

The treatment involves improving *Agni (Agni deepan)*, relieving Pain and burning sensation by pacifying vitiated *Doshas (Vata-Pitta)*, correction of constipation *(Anuloman, Malnihsaran)* and promoting wound healing *(Vranropan)*.[6]

Vataj Parikartika

1. Tablet *TriphalaGuggulu* + *KaishorGuggulu* – 2 tab each BD
2. *Mauktik bhasma* 30 mg + *Avipattikar churna* 3 gm HS
3. *Suranpindi* or *Haritaki Tikadi* - 3Gm – 2 tab at Bed time with Luke-warm water

Pittaj Parikartika

1. *Chandrakala Rasa* -2 Tablet 3 times a day.
2. *Mauktika Kamadudha* - 2 Tablet 3 times a day.
3. *Pravalpishtivati* + *Kamdudha* – 3 Tablet each twice a day.
4. *Abhayarishtha* -30ML with equal amount of water 2 times after meals.

Local Application:

1. *Yashtimadhu Ghrit / Tail -Matrabasti or Pichu* (Topically)
2. *Shatadhouta Ghrita* (Topically)
3. *Raktachandan Ghrita/ DoorvaGhrita* (Topically)
4. Hot water –*Awagah Svedan in Vataja Type* & Cold water *Awagah Svedan* (seitz bath) in *Pittaja* Type.
5. *Triphala Quath* (decoction) –*Awagah Svedan* (seitz bath) can be advised.

***Kshar or Ksharsutra* in *Parikartika*:** Role of *Kshar* in management of *Parikartika* is very limited. Few traditional healers (Madar or Chandasi clinics) use mild *pratisarneeya Kshar lepan* (alkaline paste) or keep *Ksharvarti* (medicated wick) at the bed of chronic fissure. This may help in lysis of fibrous tissues or remove hyper granulation tissue and promote healing. Similarly, few Ayurvedic surgeons apply/tie the external sentinel tags (pile present in chronic fissure) with the *Ksharsutra*. Further, anecdotal reports reveal that, ligation of *Ksharsutra* covering the bed of fissure from posteriorly making iatrogenic tract and thus, allowing *Ksharsutra* to cut-through is also practiced. However, considering the unscientific approach and severity of pain - burning in rough ulcer, the acceptance by patient for the above management is doubtful.

***Agnikarma* in *Parikartika*:**

Another para-surgical procedure known as *Agnikarma* has been widely advised by Sushruta. *Agnikarma* (Heat burn therapy) treatment provides significant relief & no recurrence in various conditions. Excision of sentinel piles by use of *Agnikarma* i.e. by electro thermal cautery has been practiced effectively. Furthermore, removal of fibrous tissues present in the fissure bed with LASER procedure can also be considered as advancement of *Agnikarma* therapy.

DISCUSSION:

In today's modernized world, shift duties, stressful life, eating of unhealthy foods makes people more prone to the ano-rectal diseases such as fissure and hemorrhoid.[7] An anal fissure is an elongated ulcer in the long axis of anal canal.[8] It is usually encountered in young or middle aged adults, but is sometimes seen at other ages, including infancy and early childhood.The condition is more common in women and generally occurs during the meridian of life, it is uncommon in the aged because of

muscular atony.[9] The earliest reference of *'Parikartika'* is available from Sushrut Samhita (1500 B.C). Description about *Parikartika* is also available in all Bruhatrayees and later classics. *Parikartika* is referred in Brihatrayees not as an independent disease but as a complication of *Bastikarma* and *Virechana (vyapad)*. *Parikartika* is characterized by *Kartanavat* and *Chedanavat shoola* in Guda. Similarly, Fissure-in-ano is also characterized by sharp cutting pain in anal region. In *Parikartika, Teevrashoola, Piccha-asra* are seen, similarly severe pain and slimy blood discharge are seen in Fissure-in-ano. Hence, Fissure-in-ano can be co-related with *Parikartika*. In Ayurvedic text, there is no specific description available as a sequel of *Parikartika* but with the scattered references in classics, the sentinel pile mass can be termed as *Shushkarsh, Bahyarsh, Vataj* or *Janmottar-kalajarsh*. The statistics reveal that up to 70 % of acute fissure resolve with conservative medicine, if not they progress to form a chronic fissure. However, Ayurvedic preparations are used in primary stage of disease the chance to progression in chronic one can be minimized. The main aim of treatment is to relive sphincter spasm and healing of fissure wound, soothing of anal canal and to relieve the agonizing pain and associated burning sensation and bleeding.

CONCLUSION:

Unsalutary diet regimen and stressful lifestyle is found to have influenced the high incidence observed today. Passage of hard constipated stools is main causative factor which lead to tear or cut in the lower anal canal resulting in severe pain during and after defecation, the cardinal feature of Fissure-in-ano. *Gudaparikartika* can be definitely correlated to Fissure-in- ano based on site, nature of pathogenesis and clinical features. The description regarding *Nidana* (etiology), *Samprapti* (pathogenesis), *Lakshan* (symptoms) & *Chikitsa* (treatment) is elaborately described in Sushrut samhita, Kashyap samhita, Astanga Hridaya etc. Ayurvedic formulations and regimen are effective in regularizing bowel upto 90% cases of acute fissures and also cures the ailment in early stage. Various treatment alternatives such as *Lepa* prepared with *Madhura, Sheeta, Snigdha dravyas* (topical application), local therapies such as *Anuvasanabasti, Picchabasti, Madhura, Kashaya dravya Siddha Matrabasti, Pichu dharana* etc. are very effective in the management of Fissure –in ano with special reference to *Parikartika*.

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