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Review Article

COMPREHENSIVE REVIEW ON *PARIKARTIKA* (FISSURE-IN-ANO)

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ABSTRACT

The health of an individual depends solely on his diet and life style. Diet plays very important role in *Parikartika* which is evident by references. The earliest reference of '*Parikartika*' is available from Sushrutha Samhitha (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 (vyapath).* Fissure-in-ano is very commonly encountered in current day to day practice. About 30-40% of the population suffer from proctologic pathologies at least once in their life. 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. *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, Teevra shoola, Piccha-asra* are seen, similarly severe pain and slimy blood discharge are seen in Fissure-in-ano. *Parikartika* is treated with internal medications and local applications formulated by using *Madhura, Sheeta, Snigdha dravyas.* Local therapies in the form of *Anuvasana basti, Picchabasti, Madhura, Kashaya dravya Siddha basti taila poorana, Lepa, Pichu dharana* are given prime importance in the management. Sentinel Piles is a sequel of chronic fissure-in-ano. In Ayurvedic text no specific description available as a sequel of *Parikartika* but lots of references available with help of that we can compare Sentinel Piles with Ayurvedic pathogenesis. In Ayurvedic text information available on *Shushkarsh, Bahyarsh, Vataj, Janmottar-kalaj Arsha* can be correlated with Sentinel Piles.

KEYWORDS: *Parikartika, Shoola,* Acute Fissure-in-ano, Chronic Fissure-in-ano, *Basti*.

INTRODUCTION

There are 2 terms explained in these contexts, viz. *Parikartika* and *Parikartana.*

Vyutpatti: The word *Parikatika* can be split into two. *Pari*- around, about; *Kartana*- act of cutting off; *Krintati*- clip, cut off. The *Parikartika* is sharp shooting pain (in rectum).[1]

Nirukti: Excrutiating cutting type of pain all around *Guda, Bastishiras* and *Nabhi* is termed as *Parikartika*[2]. An anal fissure is an elongated ulcer in the long axis of anal canal.[4] It is usually encountered in young or middle aged adults, but is sometimes seen at other ages, including infancy and early childhood.[3] 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.[4] The site of occurrence for an anal fissure is the midline posteriorly (90 percent overall). The next most frequent situation is the midline anteriorly.[4] In males, fissures usually occur in the midline posteriorly (90%) and much less commonly anteriorly (10%). In females, fissure on the midline posteriorly are slightly commoner than anteriorly (60:40). The relative frequency of the anterior fissures in the females may be explained by the trauma caused by the foetal head on the anterior wall of the anal canal during delivery.[5]

An anal fissure is either acute or chronic. Acute anal fissure is a deep tear through the skin of the anal margin extending into the anal canal. There is little inflammatory indurations or oedema of its edges. There is accompanying spasm of the anal sphincter muscle.[6]

Chronic anal fissure are those present for more than 6 weeks,[6] often have a sentinel tag at the distal aspect caused by inflammation.[7]

Aetiology

Diet plays very important role in *Parikartika* which is evident by references. Vagbhata and Kashyapa have explained that intake of *Mudga, Kodrava, Chanaka* and such other pulses and *Rooksha aharas* which are water absorbent in nature (*Sangrahi*) leading to constipation. *Apanavata* gets aggravated in its own seat (*Pakwashaya*) which blocks the *adhovaha srotas*, dries them up (of their moisture) and produces obstruction to the movement of feces, flatus and urine by which *Parikartika* occurs. [8&9]As per modern science intake of non fibrous food will leads to hardening of stools and cause Fissure-in-ano.

When *Vata* is covered with feces, the stool is constipated, patient suffers from severe pain and passes hard stools with difficulty and evacuation is delayed. This causes *Parikartana* leading to *Parikartika*.[10] If a person debilitated with *Mridukoshta* or *Mandagni*, the ingestion of *Atirooksha, Atiteekshna, Atiushna, Atilavana ahara* causes *Dushana* of *Pitta* and *Anila* and produces *parikartika*.[11]

Fissure-in-ano commonly occurs in the midline posteriorly, occasionally it occurs in the midline anteriorly and exceptionally found elsewhere on the circumference of the anus. Predominantly posterior midline location of fissures has been explained by posterior angulation of the anal canal, relative fixation of the anal canal posteriorly,

divergence of the fibres of the external sphincter muscle posteriorly, the elliptical shape of the anal canal, poor blood circulation and the sphincter fibres form Y-shaped decussation in the posterior midline that is anchored to the mucosa. Because of the less support and relative fixity the anoderm is more liable to split.

1. Constipation has been the most common aetiological factor. 2. Spasm of internal Sphincter has also been incriminated to cause fissure-in-ano. 3. When too much skin has been removed during operation for haemorrhoids, anal canal stenosis may result in which anal fissure may develop when hard motion passes through stricture.

Secondary causes of anal fissure must be remembered. These are (1) Ulcerative colitis, (2) Crohn's disease, (3) Syphilis and (4) Tuberculosis.[5]

Pathophysiology

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 anodermal ischaemia, 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.

Clinical Features and Diagnosis of Fissure In Ano

The principle symptoms in adults are anal pain, bright red bleeding, perianal swelling and occasionally mucous discharge. The pain is sharp, agonising pain starting during defecation, often overwhelming in intensity and lasting for an hour or more. A dull ache is usually experienced for 3-4 hours after defecation. Sometimes it may ceases suddenly, and the sufferer is comfortable until the next action of the bowel. Periods of remission occur for days or weeks. The patient tends to become constipated rather than go through the agony of defecation. Bleeding is only small in amount, is bright red in color. Profuse blood loss is rare. Swelling and discharge are characteristic of chronic fissure, which may be complicated by pruritis ani and perianal excoriation. Discharge may indicate an inter sphincteric abscess or a fissure-fistula.

Chronic Fissures often have a sentinel tag at the distal aspect caused by inflammation.[7] (ch. 21 p.237) It is characterised by inflamed indurated margins, and a base consisting of either scar tissue or the lower border of the internal sphincter muscle. The ulcer is canoe shaped, and at the inferior extremity there is a tag of skin, usually oedematous. This tag is known picturesquely as a sentinel pile 'sentinel' because it guards the fissure. There may be spasm of the involuntary musculature of the internal sphincter. In long standing cases, this muscle becomes organically contracted by infiltration of fibrous tissue. Infection is common and may be severe, ending in abscess formation. A cutaneous fistula may follow.

Examination

In most patients it is possible to make a diagnosis of anal fissure by inspection alone. The patient is usually anxious and may be in pain also patients are naturally fearful of having a rectal examination and the perianal skin is usually puckered by spasm of the internal and external anal sphincters and tightly held buttocks.

Inspection

Despite excessive sphincter activity, it is usually possible to notice a skin tag along with a small amount of blood or discharge on the perineum. Gentle traction on the lateral margins of the perineum nearly always reveals a fissure present below the dentate line. Sometime perianal dermatitis (fungal dermatitis) also present near anal verge which causes itching to the patient. In this condition it is necessary to treat dermatitis along with fissure.

Palpation

This is performed only after inspection to go through any associate pathology in anal canal. Digital rectal examination (DRE) is to be done by introducing properly lubricated index finger and thumb remains outside to palpate pathology around anal verge. Intense spasm of the sphincters and an irregular, painful depression near the anal margin are usually prominent features of acute fissure. In chronic fissure a fissure bed with indurated edges is present which sometime associates with hypertrophied anal papilla. Subcutaneous abscess, submucosal abscess and intersphincteric abscess associated with chronic fissure are also noticed sometimes by digital rectal examination.

Proctoscopy

It is usually not done in case of fissure in ano, if hemorrhoid or other pathology present it can be done in local anesthesia.

Sigmoidoscopy

This is necessary in case of secondary fissure to identify the primary pathology. It is done under general anesthesia to diagnose distal proctitis, colitis, crohn's disease, tuberculosis, adenomatous polyps which can cause secondary fissure.

Fissure associated with other diseases

A small proportion of fissures are secondary to other pathology. Anal fissures in Crohn's disease are usually painless. Sepsis around the fissure is common and there is often a prominent skin tag. The fissure is in form of cavitating ulcer may be situated laterally and there may be more than one. Associated fistula, abscess and stenosis are frequent. Tuberculous fissures rarely heal with conventional therapy and frequently progress to form an ulcer with undermined edges. Destruction of sphincter muscle may follow, resulting in multiple anal fistulas. In syphilitic fissure primary chancre may resemble a fissure but it is usually painless and rapidly becomes indurated, with associated inguinal lymphadenopathy. There are often two fissures that lie opposite each other around the circumference of the anal margin. In this condition diagnosis is confirmed by sample of discharge from anal canal.

Management

There are so many topical applicant are available allopathic system of medicine such as topical anesthetic agent, steroids, nitrate preparation, topical calcium channel blocker, injection of botulinum toxin, sclerotherapy using sodium tetradecyl sulphate preparations in the modern medical science but all have certain limitations. Various surgical procedures such as anal dilatation, fissurectomy, fissurectomy with skin grafting, open sphincterotomy, closed lateral sub-cutaneous sphincterotomy, sphincterotomy with cryo-therapy, sphincterotomy with radiofrequency surgery are used to treat in various stage of chronic fissure and sentinel tag. But impairment of continence, fistula or abscess formation, bleeding, wound healing are the more or less complication with these surgical procedure. Hence to avoid these complications Ayurvedic medicaments can be used.

Treatment for Acute Fissure-in-Ano

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.

1) *Matra basti* (type of *Anuvasana basti*): It acts as a retention enema and it helps in easy voiding of stools, by this *Vatanulomana* occurs and it cures the diseases caused by aggravated *Vata* as *Parikartika* is *Vata* dominate *Vyadhi.* By giving *Matrabasti* local *Snehana* occurs, spasm will also be relieved and thus brings down the pain. It softens the stools, lubricates the anal canal and provides an easy evacuation.[11]

2)*Tailapoorana:* In this Procedure Per rectal administration of 15-20 ml oil (having *Vranaropana* property) will reduce the spasm of the sphincter muscles by that pain reduces and ulcer heals.[11]

3) *Taila/Grita pichu:* It forms protective layer over fissure wound, it sooths the anal canal so relieves pain by releasing sphincter tone and it cleans the wound thus helps in healing of ulcer[10].

4) *Avgaha sweda* (hot fomentation-sitz bath): Sitting in the warm/hot water tub after each bowel movement soothes pain and relaxes spasm of internal sphincter for some time. It also helps in cleaning of fissure wound. Sitz bath is highly effective in treatment of fissure. It is done for 10 to 15 minutes[10].

5) High fibre diet: 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 fibre rich food and plenty of fluids to improve digestion and regularize bowels. These are hygroscopic, which allows them to expand and become mucilaginous. These fibres 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 to pass.

Treatment for Chronic Fissure-In-Ano

In Ayurvedic text information available on *Shushkarsha, Bahyarsha* can be correlated with Sentinel Piles. Acharya Sushruta mentioned four modalities of management 1) *Bheshaja* (conservative line of management) 2) *Kshara* 3) *Agni* 4) *Shastra.*[11]

***Kshara Sutra* Therapy:** Ligation of *Kshara sutra* to sentinel pile masses, by this themselves they may fall within few days.

Kshara Lepa: *Lepa* of *Apamarga Pratisaraneeya kshara* is done over the (Chronic fissure-in-ano) ulcer surface, by scraping action of *Kshara*, this reduces the excess fibrous tissue present over the ulcer surface and ulcer heals & sphincter relaxation occurs simultaneously.

Agnikarma: Para surgical procedure like *Agnikarma* has been widely advised by Sushruta & by doing *Agnikarma* treatment has provided marked relief & no recurrence. Excision of sentinel piles by *Agnikarma* i.e. by electro thermal cautery it is done.

Research Studies

1. *Shatdhaut ghrita:* *Shatdhaut Ghrita* was applied locally for 7 days daily. significant improvement was observed in Patients were assessed on following parameters such as pain, per rectal bleeding, itching, and burning.[12]

2. A comparative study of *Ksharasutra* ligation and electro-thermal cautery in the management of *Arsha* w.s.r. to sentinel piles was done, where clinical parameters such as *Guda peeda, Guda daha, Raktasrava, Sparshaasahatwa, Guda kandu, Shotha, Malavastamba, Mamsankura* were assessed & statically conclusion was drawn. The result showed significant result in *Ksharasutra* ligation group, not only to cure the disease but also to prevent recurrence of sentinel pile.[13]

3. Comparative study of efficacy of *Jatyadi grita pichu & Yastimadhu grita pichu* in the management of *Parikartika* was done, where parameters like pain on VAS, bleeding per rectum, itching, healing status of fissure bed was

considered & a statistical conclusion drawn. The result were equally significant in both groups.[14]

4. A comparative study on effect of *Kshara* application against fissurectomy in *Parikartika*- Was done where parameters like pain, spasm, oozing of blood after fissurectomy & criteria for wound healing were assessed clinically & statistically. The conclusion was drawn as *Kshara* application reduces pain, bleeding & spasm equally when compared with fissurectomy though healing of the ulcer was not found significant.[15]

5. Durva grita- In this study *Durva grita* was applied locally 2 times for 10 days, changes in pain, bleeding & size of ulcer were assessed clinically & statistically., where significant results were obtained among patients.[16]

DISCUSSION

On the basis of location, nature of pathology and features, *Gudaparikartika* can be correlated to Fissure-in-ano. The detail description about *Nidana* (etiology), *Samprapti* (pathogenesis), *Laxana* (symptoms) & *Chikitsa (*treatment) is mentioned in Sushruta samhita, Kashyapa samhita, Astanga Hridaya etc. There is detail description about conservative and surgical treatment for Fissure-in-ano.

CONCLUSION

- Improper dietary regimen and stressful life is found to have influenced the high incidence observed today.
- Passage of hard constipated stools is the prime cause of tear in the lower anal canal which results in excruciating pain during and after defecation, the cardinal feature of Fissure-in-ano.
- Ayurvedic preparations are all effective & these can cure fissure and regularize bowel upto 90% cases of acute fissures. These could always be offered to the patients who are not willing for operative procedure such as cardiac patients or patients with diabetes, AIDS, Hepatitis B where healing is difficult after operation.
- *Kshara* is used in different forms like *Kshara Lepa, Ksharasutra* ligation in treating *Parikartika* (Chronic Fissure-in-ano).

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