WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 10, Issue 11, 1692-1707. Research Article ISSN 2277– 7105

A STUDY OF BHAGANDARA IN BRIHATRAYEE WITH RECENT ADVANCEMENT IN DIAGNOSIS AND MANAGEMENT OF FISTULA-IN-ANO

[1]*Dr. Nayanjyoti Sarma, [2]Dr. Pankaj Kumar Barman and [3]Dr. Champak Medhi

[1]PGT, Dept. of Shalya Tantra, Govt., Ayurvedic College, Guwahati.

[2]HOD & Associate Professor, Dept. of Shalya Tantra, Govt., Ayurvedic College, Guwahati.

[3]Assistant Professor, Dept. of Shalya Tantra, Govt., Ayurvedic College, Guwahati.

Article Received on
03 July 2021,

Revised on 24 July 2021,
Accepted on 13 Aug. 2021

DOI: 10.20959/wjpr202111-21425

***Corresponding Author**
Dr. Nayanjyoti Sarma
PGT, Dept. of Shalya Tantra, Govt., Ayurvedic College, Guwahati.

ABSTRACT

Bhagandara is a common but troublesome disease which has troubled mankind from time immeorial. The Brihatrayee of Ayurved, namely Charak samhita, Sushruta Samhita and Astanga Hriday along with Astanga Samgraha have elaborately discussed about Bhagandara with special consideration to its Etiology, types, clinical feature, management and complications. Among the Brihatrayee, Sushruta Samhita has more elaborate description of various aspects of Bhagandara than the rest. The disease described in Ayurvedic treatises as Bhagandara can be co-related to fistula-in-ano in modern era of surgery considering similar characteristics and principles of management. Fistula-in-ano is a challeng to the patient as well as the surgeons as it is very difficult to cure due to its complexity. In this review, approach has been made to understand Bhagandara(Fistula-in-ano) with the help of knowledge found in Brihatrayee and the recent study and investigations available in modern medical science.

KEYWORDS: Bhagandara, Brihatrayee, Fistula-in-ano.

INTRODUCTION

The diseases of the ano-rectal region finds special attention in all the Brihatrayee and Laghutrayee with Sushruta Samhita specially describing various chapters for ano-rectal diseases which was followed by Astanga Samgraha and Astanga Hridaya. Along with other ano-rectal diseases in there is also the description of Bhagandara, found in details in context of etiology, pathogenesis, clinical features, management and complication in all the

Brihatrayee. In Sushruta Samhita, Astanga Samgraha and Astanga Hriday, Bhagandara (fistula-in-ano) is considered as one of the grave diseases (Ashta Mahagada).[1] Bhagandara is the disease occurred in ano-rectal region or Guda Pradesh, but it is said in the etymology of Bhagandara that any tear in Bhaga, Guda, Vasti pradesh is called as Bhagandara.[2] The disease described in Ayurvedic treatises as Bhagandara can be co-related to fistula-in-ano in modern era of surgery considering similar characteristics and principles of management.

Etymological Definition of Bhaga And Bhagandara

Definition of Bhaga

The area between the anus and genitalia is defined as guda (Shabdakalpadrum).

Definition of Darana

Darana means to tear or to destroy. (Shabdakalpadrum).

Definition of Bhagandara

The word Bhagandara is composed of two words, bhaga and darana. Hence Bhagandara may be considered as a type of Chronic sinus in the perianal area or perineum which discharge pass or blood and if left untreated there may be discharge of feaces, flatus, urine and semen or it may be secondary to the suppuration of an abscess resulting in scaring or destruction of the areas. Before suppuration it is called as pidaka & after suppuration Bhagandara.[2]

In Charak Samhita, description about Bhagandara is found in the 'Swayathu Chikitsitiya Adhaya' of Chikitsa Sthan along with its etiology, pathogenesis and treatment modalities.[3]

Sushruta Samhita, the primary text book of Indian Surgery describes about Bhagandara vividly in the Bhagandara Nidan Chapter of Nidan Sthana. Bhagandara has been described as a complication of Bhagandara Pidaka.

In Uttara Sthana of Astanga Samgraha, detailed description about various types of Bhagandara along with their etiology, clinical presentation & treatment modalities are found.[4] In Astanga Hridaya also etiology, clinical features, prognosis and different modalities for management of bahagandara is found in Uttara Sthana.[5]

Classification of Bhagandara

Acharya Charaka has not mentioned any classification of Bhagandara. Acharya Sushruta has classified Bhagandara into five types in Nidan Sthana as Sataponaka, Ustragreeva, Parisravi,

Sambukavarta, Unmargi.[6] In Chikitsa sthana he describes another two types of Bhgandara namely Arvachina and Parachina.[7] In Astanga Hriday and Astanga Samgraha, along with the five types, Parikshepi, Hriju and Arsobhagandara is mentioned.[8,9]

Sushruta Samhita	Charak Samhita	Astanga Hridaya	Astanga Samgraha
▪ Sataponaka ▪ Ustragreeva ▪ Parisravi ▪ Sambukavarta ▪ Unmargi Again in Chikitsa sthana: 2 types ▪ Arvachina ▪ ii) Parachina	No classification has been mentioned	▪ Sataponaka ▪ Ustragreeva ▪ Parisravi ▪ Sambukavarta ▪ Unmargi ▪ Pariksepi ▪ Hriju ▪ Arshobhagandara	▪ Sataponaka ▪ Ustragreeva ▪ Parisravi ▪ Sambukavarta ▪ Unmargi ▪ Pariksepi ▪ Hriju ▪ Arshobhagandara

NIDAN

Charak[2]	Sushruta[1]	Astanga Hridaya,Astanga Samgraha[4,5]
• Krimi • Asthi • Sukshma • Kshanan • Vyavaya • Pravahana • Utkatukasana • Aswapristha.	• Vata, Pitta, Kapha prokopjanya ahara vihara. • Asthi shalya • Mamsa lobh by mudha	• Hasti, aswa pristha gamana • Utkatukasana • Similar to Arshanidanam • Anista Adristapaka • Sadhugarhana.

Satkriyakal

S no.	Types	Causes
1.	Sanchaya	Mithya ahar, Mithya Vihar and local trauma (Avighat), Krimi (Macroscopic organism).
2.	Prakopa	Prakopa of Vata pradhan dosa in combination with Pitta & Kapha
3.	Prasara	Vitiates its own place surrounding the Guda
4.	Sthansansrya	Dosha lodged in guda,Mamsa, Rakta dushti.Guda Kandu, Ruja, Dosha Sopha Katinya on emertion.
5.	Vyakti	Bhagandara pidika, Bhagandara
6.	Bheda	Bhinna (Burst out)(Darana of Bhaga, Guda, Vasti) Vata, Mutra, Purisha, Retasa, Srava evum vedana as per doshik involvement.

Samprapti

- Dosha: Tridoshaja dominated by vata
- Dushya: Mamsa, Rakta
- Adhisthana: Guda (Gudashyad dwaya angula parshe)
- Srotodushti: Atipravritti, Vimarga gaman

Discussion of various types of Bhagandara

1. Shatapaunaka Bhagandara

According to Acharya Sushruta, if a person who is consuming unwholesome diet, aggravated Vata residing at the periphery of anal region 2 or 3 Angula in length, vitiates Rakta and Mamsa. It causes Aruna Varna Pidaka. Due to Pidaka, a person suffers from pain. If it is not treated then it gets suppurated. This pidaka may have hundreds of small openings. These opening discharge with frothy secretions. At the site of Vrana, there are different types of pain like Tadana, Bhedana, Chhedana, Toda. Ultimately, the anal region gets lacerated. If it remains untreated, then Vata, Purisha, Retas may get secreted through these opening.[10]

	Ch	**Su**	**A. Sam**	**A. Hri**
Nidan	-	*Apathya Sevan*	Improper Diet & regimen	Not treating *Bhagandara pidaka*
Dosa	-	*Vata*	*Vata*	*Vata*
Dushya	-	*Mamsa, Rakta*	*Rakta Mamsa*	*Rakta Mamsa*
Sthana	-	*Within 1-2 angula of guda*	*1-2 angula of guda*	1-2 angula Of guda
Pidaka Varna	-	*Aruna*	*Syava, aruna*	*Syava Aruna*
Vedana	-	*Tadan, Vedan, Chedan, Nistudan, Avadaran*	*Toda, bheda, sphuran*	*Toda, Bheda, sphuran*
Srava	-	Clean, frothy excessive	Thin, clean, Frothy, abundant	
Later stage	-	Discharge of flatus, urine, semen Or menstrual blood	Discharge of Flatus, urine, Semen, Mentrual blood	Discharge Of flatus, urine Semen, Menstual Blood
others	-	*Chalanika (jejjat) Aswapuschabalarachit*	*Anumukhi-chidra*	*Anumukhi-Chidra*

2. Ustragreeva Bhagandara

Aggravated Pitta impelled downwards by Vayu becomes localized in aforesaid way around guda and produces a red coloured, small elevated boil having shape like that of neck of camel. This gives rise to specific "chosha" (burning) types of pain etc. If left untreated it suppurates. The resulting wound gives rise to sensation as it burnt by Agni or Kshara with fetid and warm discharge. When further neglected flatus, urine, feces and semen start coming out of those openings. This kind of Bhagandara is known as Ushtragreeva.[11]

	Charak	**Sushruta**	**A.Sam**	**A.Hri**
Nidan	-	-	-	-
Dosa		*Pitta*	*Pitta*	*Pitta*

Dushya	-	*Rakta, mamsa*	*Rakta Mamsa*	*Rakta, Mamsa*
Sthana	-	*1-2 angula Of guda*	*1-2 angula of Guda*	*1-2 angula of Guda*
Pidaka	-	*Rakta, Ustragreevakar* (thin, elevated)	Ragini (red), thin, heat with fever	-
Vedana	-	*Ousha, chosa, Dahana* as if burnt by *agni* & *kshar*	-	-
Srava	-	Foul smell, Warm	-	-
Later Stage	-	Discharge of flatus, urine, faeces, Semen, menstrual blood	-	-
others	-	-	-	-

3. Parisravi Bhagandara

Aggravated kapha impelled downwards by vayu, becomes localized in around the guda and produces whitish, firm and an itching pidika, giving rise to various pains like itching etc. If left untreated it suppurates, the resulting wound will be hard, indurated and persistently itching, exudes slimy discharge constantly and when further neglected flatus, urine, feces and semen starts coming out of those openings. This kind of Bhagandara is known as Parisravi Bhagandara.[12]

	Ch.	**Sushruta**	**A.Sam**	**A.Hri**
Nidan	-	-	-	-
Dosa	-	*Kapha*	*Kapha*	*Kapha*
Dushya	-	*Rakta ,Mamsa*	*Rakta, mamsa*	*Rakta, Mamsa*
Sthana	-	*1-2 angula of guda*	*1-2 angula of Guda*	*1-2 angula of guda*
Bhagandar Pidaka	-	*Suklavasa, sthira*	*Sthira, Snigdha Mahamula, Pandu, kandumati*	*Sthira, Snigdha Mahamula, Pandu, kandumati*
Vedana	-	*Kanduyukta*	*Kanduyukta*	*Kanduyukta*
Srava	-	*Picchila, chira Sravi*	*Bahu piccha*	*Bahu piccha*
Later stage	-	Discharge of Flatus, aeces, Urine, semen Mentrual Blood	-	-
Others	-	Sarambhe	-	-

4. Shambukavarta Bhagandara

The word 'shambukavarta' literally means 'Ridges of a Conch shell' which suggest that pathway of track is curved and deeper ones looks like ridges of 'shanka'. Aggravated vayu carries pitta and kapha downwards and localized around guda and produces boil resembling the pada-angushtha (great toe). It displays symptoms of all doshas and is characterized by

different kind of pain like pricking, burning, itching etc. If left untreated it under goes suppuration; the wound exudes discharges of various colors and impulses of pain appear like whirlpool in river or spiral in snail shell. This type of Bhagandara is known as Shambookavarta Bhagandara.[13]

	Ch.	**Sushruta**	**A.Sam**	**A.Hri**
Nidan	-	-	-	-
Dosa	-	Vata, pitta, kapha	Tridosha	Tridosha
Dushya	-	*Rakta Mamsa*	*Rakta, mamsa*	*Rakta, Mamsa*
Sthana	-	*1-2 angula of guda*	*1-2 angula of guda*	*1-2 angula of guda*
Bhagandar Pidaka	-	*Sarvalinga, padangustha pramana*	*padangustha pramana*	*padangustha pramana*
Vedana	-	*Toda, daha, kandu*	*Kanduyukta*	*Kanduyukta*
Srava	-	*Nanavarna*	*Nanavarna*	*nanavarna*
Later Stage	-	Purna nadi shambukavarta cha samutisthanti vedana	Line of track is like shambookavarta, systemic symptoms shoola	-
Others	-	Sarambhe	arochaka, daha, fever.	-

5. Unmargi Bhagandara

In Unmargi Bhagandara, there is no doshik involvement. When a meat greedy person ingests a bony foreign body with food unknowingly, it is pushed down with solid stool by apana vayu and thus improperly reaches the anus and injures it. Then their appearance of traumatic putrefaction, in that wound comprising necrotic muscular tissue with pus and blood. The 'krimis' (worms) appear in the same way as it occurs in a constantly damp and marshy soil. These krimis while eating, away the anus, tear it from many sides. Then from the passage thus created by the krimis-flatus, urine, feces and semen are discharged. This type of Bhagandara is known as Unmargi Bhagandara.[14,15]

	Ch.	**Sushruta**	**A.Sam**	**A.Hri**
Nidan	-	*Asthishalya*	*Asthishalya*	*Asthishalya*
Sthana	-	*Guda*	*Guda*	*Guda*
Bhagandara Pidaka	-	-	-	-
Vedana	-	-	-	-
Srava	-	*Rudhira Krimi yukta*	*Rudhira Krimi yukta*	*Rudhira Krimi yukta*
Other features	-	*Discharge of flatus, faeces,Urine, semen. Menstrual blood*	*Asthishalya→ avighat → mamsa kothena → Krimi utpatti, Ruja, Daha, Kandu in the ulcer*	*Asthishalya→ vighat→ mamsakothena- Krimi utpatti Ruja, daha, Kandu in the ulcer*

6. Parikshepi Bhagandara

Acharya Vagbhata has mentioned Parikhshepi Bhagandara. It is caused by aggravated vata and pitta. Shyava-Tamra coloured pidika appears in guda region which causes pain and burning sensation and track of this type of Bhagandara is curved.[16,17]

7) Riju Bhagandara

The literary meaning of the riju is 'straight'. Riju Bhagandara is caused by vata- kapha doshas and is characterized by a straight track causing a linear tear in guda58. Fistulae arising from the anterior half of the anal canal are usually straight in nature and can be compared to Hriju Bhagandara.[18]

8) Arsho Bhagandara

Kapha and pitta doshas get aggravated and become localized in the preexisting pile masses and produce swelling at their root accompanied with itching, burning sensation etc. It burst open quickly, inundates the root of the pile mass and causes constant bleeding. The track is present at the base of pile mass. This type of Bhagandara is called Arsho-Bhagandara.[19]

sadhyasadhyata (Prognosis) of Bhagandara

- All the Bhagandara are krichra-sadhya except tridoshaja (Sambookavarta) and Agantuja (Unmargi), which are asadhya.[20]
- The Bhagandara which showes the discharge of Vata, Mutra, Purisha, Retasa, Krimi are also Asadhya.[21]
- According to Vagbhat, Bhagandara which crosses the Sevani (perineum) are also incurable.[22]

Chikitsa of Bhagandara

Charak Samhita

Acharya Charaka has advised Virechana first, followed by examinaton of tract with eshani yantra i.e probe to assess the direction of tract. Then patana karma (incision) should be given and vrana sodhan to be done with kasaya followed by application of hot oil i.e taila daha karma for healing of the wound. Again, if there is suppuration, then kshara sutra must be applied along with other measures described in vrana chikitsa.

Astanga Samgraha & Astanga Hridaya

As a preventive measure, Acharya Vaghbhat has advised to carry out three procedures to prevent ripening of the Bhagandara Pidaka.

- Sodhan (Vaman, Vircehan)
- Raktamokshana
- Parisheka

In Astanga Samgraha, early treatment of unripe wound with procedures like apatarpan and those procedures for treating vrana should be applied to prevent ripening of the Pidaka.

In Ripening state, Vagbhat has followed same principles as that of Sushruta.

Sushruta Samhita

Acharya Sushruta has explained medical & surgical management, parasurgical measures & management of vrana (wound) along with proper diet & regimen for Bhagandara. Both preventive and curative aspects have been dealt with in Sushruta Samhita.

Preventive Measures

In apakva awastha (non-suppurated) of a bhagandara pidaka , first eleven types of treatment for vrana chikitsa i.e apatarpan (light diet), alepa (ointment application), parishek (irrigation), abhyanga (external oleation), sveda (sudation), vimlapan (gentle massage), upanaha (hot poultice application), pachan (make to suppurate), vamana (therapeutic emesis), virechan (therapeutic purgation) are to be done.

After suppuration, snehana & svedana karma are advised. Then patient should be examined in lithotomy position, and with the eshani yantra, it is to be assessed if it is antarmukhi or bahirmukhi bhagandara. Incision to be given to drain out the pus, followed by agnikarma and kshara karma.

Surgical Management

Acharya Sushruta has explained different kinds of incisions for bhagandara Depending upon the doshik involvement and direction of tract which is followed by sodhana & ropana kriya.

Purva Karma

Sushruta has mentioned some diseases where the patient needs to kept Nil per orally before surgical intervention and Bhagandara is one of the them. So, the patient has to be kept

'abhuktabat' (nil by mouth) and Snehana, Langhana and Virechana. Kostha suddhi should be done in respective manner. The position of the patient for different examinations and treatment procedures for bhagandara is similar as described in Arsha Chikitsa i.e lithotomy position. The anal region to be facing sunlight or a light source.

Pradhan Karma (Surgical Procedure)

At first, the patient is to be made to lie on the table in the lithotomy position and the tract is examined to determine if the bhagandara is parachina (blind external) or arvachina (blind internal). In case of Arvachina Bhagandara, the eshani yantra (probe) is introduced into the external opening and whole tract to be excised from the root. But in Parachina, Bhagandara Yantra is inserted into anal canal when patient strains. During straining the eshani is introduced into internal opening. Then whole tract has to excised followed by cauterization with the help of kshara or agni.

Special Incision in case of Shataponak Bhagandara[23,24]

Name of Incision	type	Shape
Langalak (plough)	Incision having two arms extending on either side	T-shaped
Ardha langalak	A similar incision with one arm	L-shaped
Sarvatobhadrak	Incision surrounding anal canal on all four sides	Circular
Gotirthak	Incision resembling the shape of cow's foot	Semi-circular

Special Incision in case of Parisravi Bhagandara.

Type of incision	Analogous	Type of incision
Kharjura Patraka	Branched incision like the shape of date palm leaf	Kharjura Patraka
Chandrardha	Semi-lunar incision	Chandrardha
Chandra Chakra	Circular like full moon	Chandra Chakra
Suchi mukha	Pin-pointed or inverted cone incision towards the anal margin	Suchi mukha
Awangmukha	Same incision in opposite directions	Awangmukha

Paschat Karma (Post-Operative Care)

The General measures of Post operative care can be understood in three parts.

- Pain management – Systemic Anti inflammatory and analgesic drugs, Local application of luke warm medicated oil, Svedana (fomentation) sitz bath so that the pus is drained out.
- Wound management- use of vranashodhon and Vranaropan drugs drugs
- Bowel care- use of triphala powder, haritaki powder, isabgal husk, abhayanista etc

Fistula In Ano

A fistula-in-ano denotes a chronic granulating track or cavity communicating the anal canal to the perineaI skin. Commonly this disease develops after sponteaneous bursting or operation of an abscess located in this area. It then remains open with discharge of pus even after the abscess has healed.

Etiology and Pathogenesis

Majority of anal fistulae occur because of infection of anal glands and a chronic abscess is frequently encountered on careful examination. Once an anal gland becomes infected, a small abscess is formed usually in the inter sphincteric plane which may either resolve spontaneously, may organize into a chronic abscess cavity or may eventually rupture in the anal canal or at the perineum leading to the development of a fistula in ano. Usual spread of sepsis is in caudal direction towards perineum but an upward or lateral spread is also possible leading to a high intersphincteric, supralevator or ischiorectal abscess.

Non- cryptoglandular causes of Fistula In Ano

Apart from the infection of anal glands, there are some other specific etiological factors also such as.

- congenital fistulae
- inflammatory bowel disease
- complication of other anorectal diseases (fissure in ano etc.)
- tuberculosis
- malignancy of ano-rectal region etc.
- Abdominal disease leading to formation of pelvic abscess..
- Actonomycosis of the anal region.
- Previous rectal, obstetrics & gynecological operations.
- foreign bodies
- trauma

Classification

Milligan and Morgan (1934).

1. Low fistula - opening into anal Canal at the level of pectinate line

a. Submucous

b. Subcutaneous

c. Trans sphincteric

2. High fistula - all other varieties of fistula

Goligher (1975).

1. Subcutaneous
2. Submucous (High intermuscular)
3. Low anal
4. High anal
5. Ano-rectal

- Ischiorectal or infralevator
- Pelvirectal or supralevator

Parks et al (1976).

1. Intersphinteric.

- simple low track
- high blind track
- high track with rectal opening
- rectal opening without perineal opening
- extra rectal extension
- secondary to pelvic disease

2. transsphincteric

- uncomplicated
- High blind track

3. Suprasphincteric

- uncomplicated
- high blind track

4. extrasphincteric

- secondary to anal fistula
- secondary to trauma
- secondary to ano rectal disease
- secondary to pelvic information

MRI Classification.

MRI - Grading for perianal fistula.

Grade 1: Simple linear intersphincteric fistula.

Grade 2: Intersphincteric fistula with abscess or secondary tract.

Grade 3: Trans sphincteric fistula.

Grade 4: Trans sphincteric fistula with abscess or secondary track within the Ischiorectal fossae.

Grade 5: Supralevator or translevator diseases.

Common presentation of Fistula-in-ano.

- History of having had an abscess which burst and has discharged intermittently or continuously
- History of one or more operations for the original abscess or the subsequent fistula this condition.
- Soreness & itching of the perianal skin
- Occasional pain due to caesation of the discharge ceases temporarily & accumulation of pus.

Methods of Examination of Fistula -in-ano.

Digital Rectal examination

A careful digital rectal examination reveals varius information from different area of the anal canal and a part of the rectum like tone of the sphincter, effect of finger insertion that is painless or painful, any abnormality in the lumen for example induration of actuation fullness tendon is nodular structure polyp tumor diffuse inflammation ulcer etc.

Palpation

Careful palpation will almost always identify areas of induration around the fistula. The internal opening can often be felt by careful digital rectal examination.

Special Test

Probing

This manoever should be carried out very gently as it produces severe pain and reawakens dormant infection if carried out hastily. Jerky and forceful probing may create a false passage.

Investigation

- Proctoscopic Evaluation.

- Colonoscopy.
- Trans-Anal-Sonography.
- MR Fistulogram.

Principle of Management

The treatment of fistula in ano still remains a surgical challenge. During the last century number of surgical procedures have been developed to minimise the recurrence and to prevent damage to the anal printer muscle.

1. Non-operative or conservative

a. In acute stage, antibiotic should be given after pus culture and sensitivity test. Warm sitz bath, bowel regulators and analgesic may also be provided.

b. Some irritant chemicals eg: 4% AgNo3, Bismuth paste and combination of quinine and urithane, should be injected in fistula track.

2. Operative Management

Operative Prcedures

Fistulotomy.

Here, after the internal and external opening has been identified, the track is laid open with the use of electrocautery or knife between the internal and external opening.

Fistulectomy

It is a technique where the fistulous tract is excised. Although the technique preserves the sphincter function there is high recurrence rate because of breakdown of closer site This procedure has comparatively better results than the other but also drawback of providing a very wide wound and if the healing start from the margin, tunnel form inside. Therefore healing should be allowed from base.

Seton

A seton is a thread of foreign material that is placed in the fistulous tract. Common setons in use are suture, rubber wire, penrose drain, and medicated thread (kshar Sutra). Conventionally, seton is used for the management of high or complicated anal fistula. The function of the Satan is to provide drain, to induce fibrosis and to cut the fistulous tract with preservation of the sphincter.

Fibrin Glue

In fibrin glue, sealant is used which occludes the fistulous tract and stops the ongoing contamination of a track with stool, mucus, blood and pus and also the human protein within the glue serves as chemotactic agent attracting fibroblast and other cells required for wound healing.

Anal fistula plug

This treatment requires placement and fixing of a bioprosthetic plug made of porcine small intestinal mucosa in the internal opening of the anal fistula by suturing and does and letting the fistula heal naturally from inside out.

Endorectal Advancement Flap.

It is a procedure in which the internal opening of the fistula is identified and a flap of mucosal tissue is cut around the opening. The flap is lifted to expose the fistula, which is then cleaned and the internal opening is sewn shut. After cutting the end of the flap on which the internal opening was, the flap is pulled down over the sewn internal opening and sutured in place. The external opening is cleaned and sutured. Post-operative complications of endo rectal flap surgery include bleeding short term urinary retention and pelvic infection.

LIFT Procedure

The LIFT (ligation of intersphincteric fistula track) technique is yet another approach in treating fistulain-ano. It is based on secure closure of the internal opening and removal of infected crypto glandular tissue through the intersphincteric approach.

VAAFT

In this method visualization of the fistula tract is done using the fistuloscope, correct localization of the internal fistula opening under direct vision is done, endoscope treatment of the fistula and closure of the internal opening is done using stapler or cutaneous mucosal flap. Diagnostic fistuloscopy under irrigation is followed by fulguration of the fistula tract, closure of the internal opening and suture reinforcement with cyanocrylate.

IFTAK (Interception of fistulous tract with application of Kshara sutra) : A new approach has been taken in different Ayurvedic institutions like Banaras Hindu University, where the source of particular crypto glandular infection is identified and a different window is made most near to this followed by Kshara sutra application. The wound needs regular cleaning

and dressing for a period of fortnight to maintain the patency of the secondary window. It shortens the duration of the treatment and also prevents the recurrence.

REFERENCES

1. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Sutra 33/4 Pg- 360.
2. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Nidan 4/3 Pg- 737.
3. Pt. Kasinatha Sastri Dr Gorakha Natha Chaturvedi, Charak Samhita, Part-II,Varanasi, Chaukhambha Bharati Academy, 2015, Chikitsa 12/96, p377.
4. Prof K.R Srikantha Murthy, Astanga Samgraha of Vagbhatta, vol III(Uttara tantra) choukhambha orientalia 33, p294.
5. Kaviraj Atridev Gupta, Astanga Hridayam of Vagbhata, Varanasi, Chowkhambha prakashan, edition: reprinted 2018, Uttara Sthana 28, p750.
6. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Nidan 4/3, Pg :737-738.
7. Prof. Dr.Keval Krishna Thakral, Sushrut Samhita, Vol I (Sharira, Chikitsa & Kalpa Sthana), Varanasi, Chowkhambha Orientalia, 2014, Chikitsa 8/4 p285.
8. Prof K.R Srikanta Murthy, Astanga Samgraha of Vagbhatta, vol III(Uttara Sthana), varanasi, Choukhambha Orientalia 33/2-5, page 294.
9. Kaviraj Atridev Gupta, Astanga Hridayam of Vagbhata, Varanasi, Chowkhambha prakashan, edition: reprinted 2018, Uttara 28/5 Pg: 751.
10. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Nidan 4/5 Pg- 738.
11. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Nidan 4/6 Pg- 739.
12. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Nidan 4/7 Pg- 740.
13. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Nidan 4/8, Pg: 740-741.
14. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Nidan 4/6, Pg: 739.
15. Astanga Sangraha Uttara Sthana 33/20.

16. Kaviraj Atridev Gupta, Astanga Hridayam of Vagbhata, Varanasi, Chowkhambha prakashan, edition: reprinted 2018, Uttara 28/14, Pg: 752.
17. Astanga Sangraha Uttara Sthana, 33/16.
18. Kaviraj Atridev Gupta, Astanga Hridayam of Vagbhata, Varanasi, Chowkhambha prakashan, edition: reprinted 2018, Uttara 28/15, Pg: 752.
19. Kaviraj Atridev Gupta,Astanga Hridayam of Vagbhata, Varanasi, Chowkhambha prakashan,edition: reprinted 2018, Uttara 28/16-17, Pg: 752.
20. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Sutra 33/4 Pg- 360.
21. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol I (Sutra, Nidana Sthana), Varanasi, Chowkhambha Orientalia, 2014. Nidan 4/13, Pg: 742, Prof.Dr.Keval Krishna Thakral, Sushrut Samhita, Vol II (Sharira, Chikitsa & Kalpa Sthana), Varanasi, Chowkhambha Orientalia, 2014, Sharir 8/3 Pg: 285.
22. Astanga Sangraha Uttara 33/22.
23. Kaviraj Atridev Gupta, Astanga Hridayam of Vagbhata, Varanasi, Chowkhambha prakashan, edition: reprinted 2018, Uttara 28/31 Pg: 753-754.
24. Prof. Dr. Keval Krishna Thakral, Sushrut Samhita, Vol II (Sharira, Chikitsa & Kalpa Sthana), Varanasi, Chowkhambha Orientalia, 2014, Chikitsa 8/26-27 Pg: 289-290.