World Journal of Pharmaceutical and Life Sciences

Impact Factor: 8.21 www.wjpls.org **Coden USA: WJPLA7**

TRADITIONAL AND CONTEMPORARY ASPECTS OF *BHAGANDARA* (FISTULA-IN-ANO) – A LITERATURE CRITIQUE

Dr. Sandip Bhosale*[1], Dr. Srinivas Turlapati[2]

[1]PhD Scholar, Department of Shalyatantra, Yashwant Ayurvedic College Post Graduate Training & Research Centre, Kodoli, Kolhapur, Maharashtra-416114.

[2]Professor & HOD, Department of Shalyatantra, Yashwant Ayurvedic College Post Graduate Training & Research Centre, Kodoli, Kolhapur, Maharashtra-416114.

***Corresponding Author: Dr. Sandip Bhosale**

PhD Scholar, Department of Shalyatantra, Yashwant Ayurvedic College Post Graduate Training & Research Centre, Kodoli, Kolhapur, Maharashtra-416114.

DOI: https://doi.org/10.5281/zenodo.19435882

How to cite this Article: Dr. Sandip Bhosale*[1], Dr. Srinivas Turlapati[2] (2026). Traditional And Contemporary Aspects Of Bhagandara (Fistula-In-Ano) – A Literature Critique. World Journal of Pharmaceutical and Life Sciences, 12(4), 232–240.

This work is licensed under Creative Commons Attribution 4.0 International license.

Article Received on 21/02/2026 **Article Revised on 11/03/2026** **Article Published on 01/04/2026**

ABSTRACT

According to western medical science, *Bhagandara* is a suppurative condition that typically affects the *Bhaga* (ano rectal, pelvirectal, or perianal region) and is correlated with "Fistula-in ano." It is a well-known and prevalent condition that affects the ano-rectal area. The father of surgery, *Acharya Sushruta*, classified *Bhagandara* under *Dushtavrana* and listed this illness as one of the *Ashtamahagadas*. The primary cause, or *nidana*, of *Bhagandara* is infectious in nature, primarily involving an infection from a hair follicle and an infected and inflamed Morgagni crypt. It initially appears around *Guda* as *Pidika*, and when it erupts, it is referred to as *Bhagandara*. The disease's recurrent nature makes treatment increasingly challenging. It causes problems in day-to-day living. It results in pain and discomfort that interferes with daily activities. The pathophysiology, investigation techniques, and available treatments for fistula in ano in Ayurveda and Western medicine are discussed in this review article.

KEYWORDS: *Bhagandara*, Fistula in Ano, Ayurveda, *Ashtamahagada.*

INTRODUCTION

One common condition that affects the ano-rectal area is *bhagandara*. This illness is one of the *Ashtamahagada*, according to *Acharya Sushruta*, the father of surgery.[1] It initially appears around *Guda* as *Pidika*, and when it erupts, it is referred to as *Bhagandara*. It is related to the description of fistula in ano found in Western medicine. A fistula in ano is a granulation tissue-lined tract that opens superficially on the skin surrounding the anus and deeply in the anal canal or rectum.[2] It is unknown how common fistula-in-ano is. Between 26 and 38 percent of anal abscesses result in a fistula-in-ano.[3] Due to its complexity and recurrent nature, fistula-in-ano treatment remains a difficult task. Numerous surgical methods from antiquity to the present are detailed in texts.

Every technique has its own limitations when it comes to managing fistula-in-ano. There isn't a single method that works for every kind of anal fistula. The course of treatment varies from patient to patient depending on the type of fistula, the degree of anal sphincter involvement, and the underlying illness or pathogenesis of fistula-in-ano. It also depends on the expertise and experience of the surgeon. Fistulectomy and fistulotomy are currently the most common surgical procedures used to treat fistula in ano. Treatment options include new surgical techniques such as fibrin glue, fibrin plug, LIFT procedure, VAAFT, stem cell, PERFECT, and OTSC treatment.[4] However, there are a number of drawbacks to this surgical treatment, including the possibility of recurrence even after the tract has been completely removed, faecal soiling, rectal prolapse, anal stenosis, delayed wound healing, and frequent damage to the sphincter muscle that results in sphincter control incontinence. Additionally, the ancient Acharya described para-surgical and medical treatments for *Bhagandara*. For *Bhagandara*, *Ksharsutra* is a special and tried-and-true method.[5] The concept of *ksharsutra*

preparation was provided by *Acharya Chakradutta*. Humanity has benefited from the resuscitation of this age-old method for treating fistulas in the ano.

REVIEW OF LITERATURE

A. THE AYURVEDIC PERSPECTIVE

Ayurvedic classics contain a description of the *Bhagandara*. The father of Indian surgery, *Acharya Sushruta*, has detailed every aspect of *Bhagandara*. Humans have been afflicted with *bhagandara* since the time of the *Vedas, Puranas*, and *Samhita* (*Bhrihatrayees* and *Laghutrayees*). There is a wealth of information about this illness's existence and management.

Bhagandara's origin

The terms "*Bhaga*" and "*Darana*," which are derived from the roots "*Bhaga*" and "*dri*," respectively, are combined to form the word *Bhagandara*. "*Darana*" refers to a tearing sensation with significant tissue destruction, while "*Bhaga*" refers to the perineal and perianal region.[6] As a result, the derivation results in an impression of a typical pathological lesion in the perianal and perineal regions.

Bhagandara's definition

The skin surface that surrounds the *Darana* of *Bhaga, Guda*, and *Basti* is known as *Bhagandara*. Following his description, *Bhagandara Pidika* is a deep-seated *Apakva Pidika* within the two *angula* circumference of *Guda Pradesh* that is linked to pain and fever. *Pidika*, also known as *Bhagandara*, can burst and change into a discharging track if it is not handled correctly. It is a standard "*saririkavrana*."[7] It has a connection to "Fistula-in-ano."

Bhagandara's Ayurvedic etiology

According to *Sushruta Samhita*, *Bhagandara Pidika* is created by *nidana sevan* (*Vata Prakopak ahar vihara*), which brings *Vata Prakopa, Pitta*, and *Kapha* to the *Guda*, where it becomes localized and vitiates *Rakta* and *Mamsa*.[8] This is the starting condition. This *Pidika* turns into a *Pakva Pidika* if it is not treated and *Nidana Sevan* persists. *Puya's* formation will result in *Darana* and connect to *Gudanalika*, which leads to *Bhagandara*. He has discussed etiological factors in *Charka Samhita*, such as *Krimi Bhakshan*, which can be connected to any microbial or cryptoglandular infection. *Pravahan*, which causes inflammatory changes in the rectum and anal canal, refers to straining during the act of defecating, as observed in dysentery, etc. *Utkataasan's* constant squatting position results in ischemia and micronecrosis at the pressure point. Trauma-related *Asthi Kshanan* is comparable to *Bhagandara*.[9] Ischemic necrosis at the cellular level brought on by horseback riding resulted in infection and inflammation.[10] *Acharya Vagbhata* listed a few etiological factors in *Ashtang Hridayam*, including sitting on hard surfaces, squatting, and riding on an elephant or horse for extended periods of time. These factors may directly injure *Guda* and eventually cause inflammation in the perianal area.[11] They have the potential to spread infection and ultimately cause *Bhagandara*. At the same time, different *Bhagandaras* were motivated by different etiological factors, or doshas. The same etiological factors as *Acharya Sushruta* were mentioned by *Acharya Vagbhata*: vitiation of *Vata* along with *Pitta* and *Kapha doshas*, which results in *Khavaigunya* (vitiation) of blood and muscle tissues in the rectum, followed by *Pidika* (Boil) and the formation of ulcers (*vrana*). If this condition is not adequately treated, it develops a discharging opening around the perianal region, either internally or externally, and is called *Bhagandara*.[12]

Bhagandara levels of classification

According to the predominant *Doshas*, *Acharya Sushruta* has divided the illness into five categories:[13]

1.Vataja-Shataponaka
2. Pittaja-Ushtragreeva
3. Kaphaja- Parisrave
4. Tridoshaja-Shambookavarta
5. Abhighata/Trauma-Unmargee.

Acharya Vagbhata listed three additional varieties, totaling eight types of *Bhagandara*.[14]

1. Dominance of *Vata* and *Pitta—Parikshepee* (Horseshoe-shaped fistula)
2. *Kapha* and *Vata* dominance—*Riju* (straight)
3. Dominance of *Pitta* and *Kapha-Arshobhagandara* (Piles fistula).

Acharya Sushruta has identified two additional forms of *Bhagandara* during the period of *Chhedan Karma* in *Bhagandara Chikista*.[15]

1. *Arvacheena-Antarmukha* (Blind internal): The tract, known as *Antarmukhee*, opens inside the anorectal canal without an external opening. It is referred to as blind internal in contemporary science.
2. *Paracheena-Bahirmukha* (Blind external): The tract opens outside or in the perianal area without an internal opening; this is referred to as *Bahirmukhee*. It is referred to as "blind external" in contemporary science.

Bhagandara Purvarupa (Initial Symptoms)

According to *Acharya Sushruta*, the *Purvarupa* of *Bhagandara* included pain in the *katikapala* (pelvic bone), itching, burning sensation, and swelling in the *Guda*. These symptoms begin with riding and defecating. These characteristics actually show that Pidika's formation functions as *Bhagandara's Purva Rupa*.

Bhagandara's Rupa (Signs & Symptoms)

The *Rupa* of *Bhagandara* is releasing *Vrana* in the two-finger vicinity of the anal canal and has a history of repeatedly bursting, healing, and reoccurring *Pidikas*. The most common symptom of *Bhagandara* is this painful perianal condition. Every Ayurvedic philosopher believes that *Bhagandara Pidika* comes before *Bhagandara Vrana*. According to the predominant *Doshas*, each *Bhagandara's Rupa* is described as having particular symptoms.

***Bhagandara's Samprapti* (Pathogenesis)**[16]

According to *Shat-kriyakala*, *Bhagandara* can be developed in the ways listed below. As a typical physiological reaction to a variety of endogenic and exogenic stimuli, the person experiences vitiation of *Dosha* and *Dushya* is *Chayaavastha* of *Doshas* when they continue to use the particular etiological factor. *Dosha* then becomes irritated at their usual location in *Prakopawastha*. The doshas move throughout the body as *Prasarawastha* advances from the preceding stage. The final stage, *Sthanasanshray*, is where doshas are located in *Guda* following the vitiation of *Rakta* and *Mansadhatu*. Following this stage of *Thanasanshray*, *Purvarupa* symptoms include swelling at the anus, itching, burning, and waist pain (*Katikapala*), along with the development of *Pidika*.

At this stage of *Vyaktawastha*, *Pidika* gets suppurates and keeps passing different kinds of discharge through it that are connected to different kinds of pain. *Bhedavastha*: If the preceding stage is disregarded or improperly handled, it results in *Darana* of *Basti*, *Guda*, and *Bhaga*, which releases *Vata*, *Mutra*, *Pureesha*, and *Retasa*. Along with *Pitta* and *Kapha*, *Vata* is the dominant *Dosha* in this situation. *Agantuja Bhagandara Samprapti* is caused by a wound that develops first, followed by *dosha* vitiation.

***Asadhyata-Saadhya* (Prognosis)**[17]

According to *Acharya Sushruta*, *Bhagandara* is among the *Ashtamahagadas* that are extremely challenging to cure. While *Tridoshjanya Khsataj* (*Agantuja*) varieties are *Aasadhya*, all types of *Bhagandara* are *Krichhasadhya* (*Sannipata*). According to *Acharya Sushruta*, an anal fistula becomes incurable if it communicates higher with the rectum, urethra, bladder, or prostate. *Pravahani Valee* and *Sevarni Valee* become incurable when *Bhagandara* tract crosses them.

TREATMENT OF *BHAGANDARA*

Management of *Apakva Pidika*: *Apakva Pidika* is treated using the principles for managing *Aama Shopha*, which include the eleven methods mentioned for *vranashotha*, such as *Apatarpan*, *Alep*, *Parishek*, *Abhyang*, *Swedana*, *Vimlapana*, *Upanaha*, *Parishravana*, *Snehan*, *Vaman*, and *Virechan*.

Management of *Pakva Pidika*: *Bhagandara* can be treated in a variety of ways, including medication, parasurgery, and surgery. *Chhedan*, or the removal of the entire tract, is the primary treatment for Bhagandara and is comparable to fistulectomy in contemporary terminology.[18] *Acharya Sushruta* discussed the application of *Ksharasutra* in the treatment of *Bhagandara* in specific patients, such as those who are weak, nervous, or unfit for *chhedan*. All forms of *Bhagandara*, with the exception of *Pittaja*, indicate *Agnikarma* (Cauterization). *Agnikarma's* primary goals are to halt the bleeding and cauterize the tract's granulated lining. This can be broken down into three stages for ease of understanding - *Purva Karma*, *Pradhana Karma*, and *Paschat Karma*.[19]

Purva Karma: The patient should be prepared with *Snehana*, *Swedana* (*Avagahana*), *Langhana*, and *Anulomana* (*Mrudu virechana*) the day before *Shastrakarma*.

Pradhana Karma: The patients' position patients should be forced to lie down on a table in the position specified for the *Arsha* procedure (piles). The lithotomy position and this position are comparable.

Instruments: *Bhagandara Yantra* is comparable to *Arshoyantra*, which comes in two varieties: *Dvichhidram* and *Ekachhidram*. After *Ghrita* lubricates the anal opening and *Bhagandara Yantra*, the patient is instructed to strain down before *Yantra* is introduced into *Guda*. *Eshanee* used to carry out the *Chhedana* Procedure and *Ksharsutra*. *Soochee*: Used in the *Ksharsutra* process.

Chhedana karma: The lithotomy position is always utilized to carry out a surgical procedure. *Ghrita* is used to lubricate the *Bhagandara Yantra* and the anus. To determine whether the *Bhagandara* is *Paracheena* (blind internal) or *Arvacheena* (blind internal with the aid of *Eshanee*), the *Bhagandara* tract is analyzed. The entire tract is removed without leaving its *Aashaya* in the *Paracheena* type of *Bhagandara* by inserting the *Eshanee Yantra* (Probe) into the external opening. *Bhagandara Yantra* is introduced into the *Guda* if it is *Arvacheena*, and the patient should be instructed to strain. The internal opening is used to introduce the *Eshanee* (probe) during straining. After that, the entire tract is removed, and *Kshara* or *Agni* are used to cauterize it. *Acharya Sushruta* mentioned a procedure called *Chhedana* that is comparable to the contemporary fistulectomy.

Managing a particular kind of *Bhagandara*: 1. *Shataponaka*: Treating one tract at a time is recommended. One tract should be healed before treating the other. The incision used in *Shataponaka Langalaka Ardhalangalaka Bhagandara* (T-shaped), *Goteerthaka* (semi-circular), or *Sarvatobhadraka* (circular). In this *Bhagandara*, *Agnikarma* is used for pain and discharge after *Chhedana*.

2. *Ushtragreeva*: *Chhedana* and *Ksharkarma* are used to treat this type.
Agnikarma in *Ushtragreeva* is prohibited due to *doshagnata*.
It is recommended to apply *Tail* and *Ghrita*, and *Parishek* with *Ghrita*.

3. *Parisravee*: *Agni* and *Kshara Karma* follow the excised tract.
Anorectal *Parisheka* with *Anutaila*, *Upnaha*, *Parisheka* with *Gomutra*, and *Kshara* (*Apamarga*) are recommended. Incisions are indicated in *Bhagandara*

Chandrachakra, *Avangmukha, Parisravee Chandrardha, Soocheemukha*, and *Kharjoorapatraka*.

4. *Shambookavarta*: This type should not be treated since it is *Aasadhya*.

5. *Unmargee*: Tract and foreign body excision, followed by *Agnikarma* with red-hot *Shalaka* (*Jaambvaushtha*). Treatment with *Krimighna* is recommended.

6. *Parikshepee*: According to *Acharya Vagbhata*, the *Ksharsutra* mentioned in this type is of *Bhagandara*.

7. *Riju*: *Bhagandara's* general treatment.

8. *Arsho-Bhagandara*: This kind of *Bhagandara* indicates general management of *Bhagandara* after managing *Arsha*.

PATHYA-APATHYA

***Pathya* (Do's):** Classics such as *Shali Dhanya, Mudga, Patola, Vilepee, Jangala Mamsa Rasa, Shigru, Vetagra, Bala Mulaka, Tila, Saeshapa Taila, Tikta Varga, Ghrita*, and *Madhu* mention the following *Pathya*.[20]

***Apathya* (Dont's):** Classics such as *Ati Vyayaama, Ati Maithuna, Kopa, Yudha*, and others mention the following *pathya. Guru Aahara, Vega Avarodha, Ajeerna,* and *Sahasa Karma*.[21]

REVIEW OF LITERATURE

B. CONTEMPORARY ASPECT

Fistula-in-Ano

The Latin word "fistula" refers to a reed, pipe, or flute. A fistula in surgery refers to a persistent granulating tract that joins two surfaces lined with epithelium.

These surfaces could be mucosal or cutaneous. An anal fistula is, in its most basic form, a single tract with an internal opening in the altered skin or mucosa of the anal canal or rectum and an external opening in the skin of the perianal region.

Multiple internal openings are extremely uncommon, but the fistulous tract is frequently more complicated in its course, meaning it may have multiple openings. A layer of granulation tissue lines the inside of the fibrous tube formed by the thick, tough layer of fibrous tissue that makes up the tract's wall.

The underlying cause of fistula in ano: Anorectal fistulas frequently result from crypto glandular infections brought on by enteric bacteria. The ducts of the anal glands, which are located in the inter-sphincteric space, enter the anal canal and empty at the dentate line. The acini ramify in the inter-sphincteric space, and some of them pierce the external and internal sphincters. Pus can spread laterally, upward, or downward in the inter-sphincteric space, leading to an abscess in the ischiorectal or perianal regions. These abscesses may drain or spontaneously discharge. Since the anorectal abscess has drained, there may be communication between the perianal region and the anal canal at the dentate line. Anorectal fistulae may result from communication between the two epithelial surfaces. Only a small percentage of fistulae are secondary to other diseases; the majority are primarily caused by crypto glandular infections. Although secondary fistulae are a common symptom of Crohn's disease, they shouldn't be considered specific because 7% of patients with ulcerative colitis also experience perianal fistulae. Anal fissures, actinomycosis, tuberculosis, and foreign bodies surrounding the anal canal can all complicate anorectal fistulae. Acute appendicitis, sigmoid diverticulitis, salphingo-oophoritis, and presacral dermoid cyst are among the other abdominal conditions that can cause pelvic abscess formation. Congenital fistulae can also occur and may be linked to inclusion desmoids.[22]

Clinical characteristics

Upon examination, the majority of cases reveal an external opening surrounding the anal canal; however, patients with inter-sphincteric fistulae may not have any visible external opening. Purulent discharge from the anal canal and around the anus is a sign of anorectal fistulae. A patient describes an abscess that either burst on its own or needed surgical drainage. Although an anal fistula is a painless condition, pain is felt until the abscess bursts, which provides instant relief, even though pus builds up to form recurrent abscesses. Due to pruritus brought on by the worst skin conditions, itching and soreness at the perianal area can occasionally be common.[23]

CLASSIFICATION OF FISTULA IN ANO[24]

Milligan and Morgan (1934) categorized fistulas in ano based on how they relate to the anal sphincters, specifically the anorectal ring.

1. Low Fistula: Opening to the anal canal at the pectinate line level. Subcutaneous, transpincteric, and submucous fistulas are the three types.
2. High Fistula: Every other type of fistula.

Goligher (1975): Standard classification:[25] 1. Subcutaneous, 2. Submucous, 3. Low anal, 4. High anal Anorectal has b) Pelvirectal and a) Ischiorectal.

Classification of Pathology:[26] 1. Tubercular fistula; 2. Diabetes; 3. Leprotic; 4. Secondary to Crohn's disease; 5. Secondary to colloid; 6. Cancer of the rectum.

Park’s Classification of Fistula-in Ano and its Management:[27] Park’s classification of fistula in ano gives an accurate description of the anatomical course of 1. Intersphincteric, fistulous tracts i.e. 2. Trans-sphincteric, 3. Supra-levator, and 4. Supra-sphincteric.

Classification according to St. James University Hospital:[28] (Based in axial plane, primary fistulous tract, secondary extension and abscess) Grade I is Simple linear inter-sphencteric fistula. Grade II includes Inter

sphencteric with secondary tact or abscess. Grade III is Transpincteric. Grade IV involves transpincteric with abscess or secondary tract in ischiorectal or ischioanal fossa. Grade V-is supra levator or Trans levator.[24]

DIAGNOSIS[29]

Examination: Upon examination, one or more external apertures are observed as an elevation of granulation tissue with pus discharge. There may be scars from prior anorectal surgery for haemorrhoids, fissures, fistulas in the ano, and abscesses. Palpation: A meticulous digital palpation of the anal canal and perianal area comes next. Indurations from the external fistulous opening to the anus may be palpable. The fibrosis of the tract wall is what causes the indurations. Palpable pus discharge indicates inadequate drainage, and tenderness may indicate an inflammatory fistula condition. The tract is typically felt as a distinct rod of indurations that extends straight from the external opening to the anal verge in a simple direct fistula, which is fairly superficial.

When a posterior horseshoe fistula hoods the Puborectalis sling, it can be felt as a thick, rod-like indurations that are posteriorly located just above the level of the anorectal ring and on one or both sides. The area of indurations or internal openings can be seen with a digital examination of the anal canal. Imaging the location of an internal opening is aided by Goodsall's rule. A proctoscopy examination reveals an internal fistula opening as a dimple and hypertrophied papilla. Proctoscopy can also reveal other medical conditions like proctitis and haemorrhoids.

The dye methylene blue - The fistula is finished when methylene blue is injected from the external opening and emerges through the internal opening.

Finding the internal opening and determining whether the fistula is complete are both greatly aided by this.

Probing: The diagnosis of the fistula tract depends heavily on probing examination. Following a basic inspection and palpation preliminary survey, probing is carried out. With this knowledge, probing can determine the fistulous tract's likely path and make the probe's passage more useful.

According to Goodsall's rule[30], the tract will be straight and the internal opening will be in the same plane if the external opening of the fistula in ano is located anteriorly within 1 and a half inches of the anus. However, the internal opening will be at 6 o'clock posteriorly and the tract will be curved if the external opening is more than 1 ½ inches from the anus or if it is positioned posteriorly. The fistula is finished when methylene blue is injected from the external opening and emerges through the internal opening. This is very useful for locating the internal opening and determining whether the fistula is complete. Additionally, it is necessary for procedures like fistulectomy, Seton therapy, and Ksharsutra therapy. Before guiding the probe, a lubricated finger is inserted. It is crucial to probe with the utmost gentleness.

INVESTIGATIONS

Endoanal Fistulography, Ultrasonography (TRUS)[31], Computerized Tomography[32], or Magnetic Resonance Imaging[33], X ray Chest.

SURGICAL MANAGEMENT OF FISTULA-IN-ANO: Fistulotomy: The patient was kept in a lithotomy position while under the proper anaesthesia. Once the external fistulous opening has been identified, a probe with a groove should be passed from the external opening to the internal opening. Over the probe, the tract is spread open. Granulation tissue was cured and sent for histopathological analysis. Granulation tissue should be drained or laid open if it is found to be persistent after curettage. Advantage is a straightforward and efficient technique for treating low-type fistulas. It requires less time for wound healing and has a shorter operating time with less pain following surgery. It is possible to divide the subcutaneous external sphincter and internal sphincter at right angles to the underlying fibers at the low level without compromising continence. For 85–95% of primary fistulas, such as submucosal, inter-sphincteric, and low transpincteric, this method works well.[34]

Fistulectomy: This procedure entails using either diathermy cautery or sharp dissection to core out the fistula. Compared to fistulotomy, it enables more precise definition of fistula anatomy, particularly the level at which the tract crosses the sphincters and the existence of secondary extensions.

Benefits include a high success rate and a low fistula rate. As a result, it is mostly applied to trans-sphincteric and inter-sphincteric fistulae.

One of the drawbacks of these surgeries is that they result in a large wound that extends from the anal opening to the buttock and causes a lot of pain afterward. Invasive: There will be a lot of cutting, scarring, and anatomical distortion during the procedure. Extended Hospitalization: The patient needed to stay in the hospital for at least four to eight days. High morbidity: The patient must be dressed for four to six weeks, during which time they are obviously unable to work. High recurrence rate: Despite all of these challenges, there is a high chance of recurrence following this surgery.[35]

Seton-A Seton is a piece of surgical thread used to keep a fistula open for a few weeks. This eliminates the need to cut the sphincter muscles while allowing it to drain and aid in healing. Although many materials have been used, the Seton should be non-absorbable, comfortable, and non-degenerative. The purpose of a tight or cutting seton is to cut through the enclosed muscles. After passing a seton around the external sphincter on the

residual tract, it is tied loose and daily wound irrigation and dressing are necessary for post-operative care. Benefits: Seton can be used alone, in stages, or in conjunction with fistulotomy. This method works well for recurrent fistulas following a prior fistulotomy. High transpincteric, supra-sphencteric, extrashincteric, or multiple fistulas are examples of complex fistula cases. A female patient has an anterior fistula. low sphincter pressure prior to surgery. individuals with immunosuppressive conditions or Crohn's disease. The technique's drawbacks include incontinence and recurrences. Seton's cutting rates range from 82% to 100%. Long-term incontinence rates, however, can also rise above 30%.[36]

Mucosal progression flap: In this procedure, the internal opening is completely excised and the fistula is cut or scraped out along with the primary and secondary tracts. Although it is recommended for the same disease condition as Seton use, this technique is primarily used for chronic high fistula.[37,38,39]

One-stage surgery with no further sphincter damage is advantageous.

LIFT Procedure: When a fistula passes through the anal sphincter muscles and a fistulotomy would be too dangerous, the ligation of the inter-sphincteric fistula tract (LIFT) procedure is used. 2007 saw the first description of this process for complicated trans sphincteric fistulas. The objective is to remove the infected crypto glandular tissue and securely close the internal opening.[40] LIFT has a 40–95% success rate and a 6–28% recurrence rate.[41] The inter-sphincteric plane is located and isolated by precise dissection through the inter-sphincteric plane after a tiny incision is made over the probe that connects the external and internal openings. Following isolation, the inter-sphincteric tract is divided distal to the point of ligation and ligated near the internal sphincter after being twisted with a tiny, right-angled clamp. Hydrogen peroxide is injected through an external opening to verify the division of the appropriate tract. The external opening and residual fistula tract are cured to the extent that the external sphincter complex is close by. Finally, an absorbable suture is used to loosely reapproximate the inter-sphincteric incision. The wound is left open for dressing after it has been cured. It contrasts the anorectal advancement flap technique's success rate.

VAAFT Procedure: Video-Assisted Anal Fistula Treatment is a novel, enhanced, minimally invasive, painless, and sphincter-saving method for complicated fistulas. Meinero created it initially in 2006. The patient is in the dorsal lithotomy position during the procedure, which is carried out under a subarachnoid block. This method uses a fistuloscope, which moves through the tract under vision, to visualize the internal opening. the internal opening's closure and the fistula tract's total destruction. When the entire tract has been destroyed, an endobrush is used in place of the electrode to remove the necrotic material from the fistula and irrigation fluid. A unipolar electrode is inserted into the fluoroscope to fulgurate the fistula walls from the inside out under direct vision. Following removal, the incision is sealed with fibrin glue or absorbable suture. It is a procedure that saves sphincters and provides patients with numerous benefits. The glycine mannitol running solution facilitates the fistulous tract's opening.[42]

Plugs and adhesive (Fistula Plug): This cone-shaped, animal-tissue plug is used to obstruct the internal fistula opening. The anal fistula plug, a bio-xenograft composed of lyophilized pig intestinal submucosa, was first described by Johnson et al. The insertion of a bioprosthetic plug is an additional option in situations where a fistulotomy carries a high risk of incontinence. These treatments reduce postoperative morbidity and the risk of incontinence because they are less invasive, but there is a lack of long-term data for disease eradication, particularly in complex fistulas with high recurrence rates. As part of medical research, the National Institute for Health and Care currently advises performing the procedure.[43]

Fibrin Glue: At the moment, the only non-surgical method for treating anal fistulas is fibrin glue. Under general anaesthesia, a special glue is injected into the fistula to complete this procedure. The glue aids in sealing the fistula and promoting healing. For simple fistulas, it is less successful than fistulotomy, and the outcome might not be permanent. Because the anal sphincter muscles do not need to be cut, this could be a helpful option for fistulas that pass through them.[44]

Endoscopic Ablation: An endoscope, a tube with a camera on the end, is inserted into the fistula during endoscopic ablation. To seal the fistula, an electrode is passed through the endoscope. There are no significant safety issues with this method, and it functions effectively.[45]

Laser Surgery: This radially emitting laser fibre treatment involves sealing the fistula with a tiny laser beam. Although its effectiveness is uncertain, there is no safety risk.[46]

Limitations of surgery for an ano fistula: Recurrence following surgery-According to reports, the rate of fistulotomy is 0–18% and the rate of incontinence is roughly 3–7%. Seton reports a recurrence rate of 0–17% and an incontinence rate of roughly 0–17%. Recurrence rates for mucosal advancement flaps range from 1 to 17%, while incontinence rates are reported to be between 6 and 8%. Early postoperative complications include bleeding, urine retention, thrombosed faecal haemorrhoids, impaction, delayed postoperative complications include delayed wound healing. Unless there is an underlying disease process (such as Crohn's disease or recurrence), complete healing takes 12 weeks.

Anal stenosis is the healing process that results in anal canal fibrosis.

PERFACT Procedure: Proximal PERFACT procedure surface-level Cauterization, Emptying Regularly Fistula Tracts, and Curettage of Tracts is a novel approach to treating extremely complicated anal fistulas. It works well even in cases where the internal opening is not localizable and the fistula is connected to an abscess or supralevator fistula-in-ano. The procedure is carried out under either a brief general anaesthesia or a saddle block (spinal anaesthesia). The internal opening is localized when the patient is in a prone jack-knife position or undergoing lithotomy. Injecting saline, hydrogen peroxide, or povidone iodine through the external opening makes this easier.

There are three steps in this process. 1) Proximal superficial cauterization: Electrocautery is used to make the area surrounding the internal opening fresh and de-epithelize it. The fundamental idea behind this cauterization is to use granulation tissue to permanently seal the internal opening while allowing the wound to heal through secondary intention. This typically took ten to twelve days to close the internal opening. Step 2: Fistula tract curettage Using a curette, the lining of each complex fistula tract is removed. Step 3: Emptying fistula tracts on a regular basis: Following curetting, the tracts are cleaned on a regular basis during the post-operative period until they fully heal.

A finger inserted into the anorectal canal is used to gently rub the wound in order to clean it. A cotton swab mounted on an artery forceps is used to empty fistulas with multiple tracts, horse shoe fistulas, recurrent fistulas, anterior fistulas in females, and fistulas with long tracts. These days, the PERFACT procedure is emerging as a first-line, definitive treatment for all kinds of complex fistulae, such as those linked to abscess/pus collections, fistula with supra-levator blind extension (not with high rectal opening), fistula where internal opening cannot be localized, and fistula with any tract length greater than 10 cm.[47]

Over-the-Scope OTSC Fistula Closure: The more recent, cutting-edge surgical technique for closing an anal fistula is called Clip (OTSC). It is a minimally invasive procedure that preserves the sphincter and has a high patient satisfaction rate and promising initial results. It is made up of a clip applicator and a super-elastic Nitinol clip. To heal the fistula track, the clip is applied to the internal fistula opening using a trans-anal applicator. This method is more effective in treating crypto glandular anorectal fistula.

Operative Procedure: In this procedure, the infection is inserted along the tract by probing the fistula and inserting a seton. In other therapies, this can be accomplished by placing seton drainage for two to three months prior to clip application. The second step involves cutting a circle around the fistula's internal opening, about two centimetres in diameter, and then applying a clip to the sphincter muscle. Using a special fistula brush, the third step involves debridement and the removal of granulation tissue, epithelium, and debris lining the fistula. Precise alignment using a suture or OTSC Proctology Anchor is the fourth step. The sutures are knotted at the distal end in the fifth step. The sixth step involves moving the OTSC applicator in the direction of the fistula's internal opening while maintaining a small amount of suture tension. The applicator caps are centered and positioned on the tissue surrounding the fistula opening with stable contact in the seventh step. Once the safety lock has been folded back, the applicator's deployment trigger is pressed, causing the deployment ring to push the clip off the applicator cap. It takes almost six months for the tract to fully heal after surgery. One benefit is that there are no technical or surgical issues during the procedure. Following surgery, there is no unbearable pain or foreign body sensation in the anal area. The clip may occasionally come loose on its own, which is a drawback.[48]

DISCUSSION

The father of surgery, *Acharya Sushruta*, gave a detailed account of *Bhagandara* in *Sushruta Samhita*. Fistula in ano may coexist with this illness. *Acharya* has provided a thorough explanation of the definition, aetiology, types, pathogenesis according to *Shatkriyakala* (onset and progression), *Purvarupa* (prodromal features), *Rupa* (clinical manifestation), stage-wise management, and even the complications of *Bhagandara*. A fistula develops as a result of long-term carelessness and infection from a sebaceous gland or hair follicle. Pus discharge in the perianal area is the primary symptom. There is tenderness and pain. He explained *Bhagandara Pidika*, which, if left untreated, results in an abscess and eventually an ano fistula.[49]

He explained the various forms of *Bhagandara* according to their symptoms and *dosha* involvement. Stage-by-stage treatment of *Bhagandara* has been mentioned by *Acharya Sushruta*. He has argued that when the *Pidika* (Boil) reaches the ripening stage, *Snehan*, *Avagah Swedan* (oleation and fomentation) of the peri-anal region should be practiced. In the unripe stage, one should follow "*Apatarpan*" to "*Virechan*" measures of "*Vranachikitsa*" (wound management). Ayurvedic Para surgical techniques such as *Agnikarma* and *Ksharsutra* for *Bhagandara*. All forms of *Bhagandara*, with the exception of *Pitaja*, require *agnikarma*.[50] The primary goals of *agnikarma* are to cauterize the granulated lining of the tract and halt the bleeding. Compared to contemporary surgical methods, *Ksharsutra* is the gold standard treatment because it has a lower recurrence rate and fewer chances of incontinence. All forms of *Bhagandara*, with the exception of *Pittaja*, indicate this *karma*. The primary goals of *agni karma* are to cauterize the granulated lining of the tract and stop the bleeding. For the surgical

treatment of *Bhagandara*, he brought up *Chedan Shastrakarma*, which is the radical excision of the fistulous tract.[51] The Ayurvedic para-surgical procedure *Ksharsutra*, which has a lower recurrence rate and fewer chances of incontinence than current modern treatment alternatives, is still a more effective and acceptable scientific treatment for fistula in ano despite numerous advancements in the surgical management of this condition.

We attempted to gather all of the disparate descriptions of *Bhagandara* found in different Ayurvedic texts for this article, and we also included contemporary descriptions.

CONCLUSION

A thorough understanding of perianal anatomy and pathophysiology is necessary for the management of fistula in ano. Nearly all surgeons, from *Acharya Sushruta* to Hippocrates, as well as contemporary, well-known surgeons, have acknowledged the challenging course of this illness and have suggested various surgical, parasurgical, and medicinal treatments. Even for careful and skilled surgeons, fistula in ano remains a challenge despite numerous advancements in surgical techniques. Ayurvedic surgeons still use *Ksharsutra* therapy as the gold standard for managing *Bhagandara*.

REFERENCES

1. Sushruta, Sushruta Samhita. Edited by Ambikadutta Shastri. Chaukhambha Sanskrit Sansthan, Varanasi Reprint ed, 2010; 163.
2. Bailey and Love's Short Practice of Surgery, 25th edition, Normans S. Williams Publication: 2008. The anus and anal canal; page no 1266.
3. Vasilevsky CA, Gordon PH. Benign Anorectal Abscess and Fistula. In: Wolff BG, Fleshman, JW, Beck DE, Pemberton JH, Wexner SD, Eds. The ASCRS Text-book of Colon and Rectal, Surgery. New York, NY: Springer, 2007; Chapter 13.
4. Murtza Akhtar; Fistula in ano-An Over-view, JIMSA, Jan-march 2012; 25.
5. Chakradatta, Sri Chakrapanidata, by Sri Jagdishvara prasad Tripathi, edited by Bhishagratna Brahmashankara Pt. Mishra, Chowkhamba Sanskritik Bhwavan, Varanasi -221001, Fifth Edition 1983, arshachikista, chapter 5/148, page no 66.
6. Vachaspatyam, Vamana Shivarava A Shtekruta Sanskrit Hindi Kosha.
7. Shashtri A.D, Sushrut Samhita in AyurvedaTatva Sandipika, chaukhamba San-skritsansthan, nidansthanam chapter Su. Ni. 4/12, page no 246.
8. Sushrut samhita by Prof K.R. Srikanth Murthy with the commentaries Nibandh Sangraha of Dalhanacharya and Nyay Chandrika of Sri Gayadas, edited by Yadavji TrikamjiAcharaya, Nidansthan chapter 4 Bhagandara Adhyaya, 5th Edition, Published by Chaukhambha Orientalia Varanasi, 2005; Page no 521.
9. Charaksamhita (Agnivesa) with the commentators Chakrapani Dutta on Ayurved Dipika edited by Dr. Ram Karan Sharma and Vaidya Bhagwan Dash, Chikitsasthan chapter 12 Shotha Chikitsa, Pg. no. 515. Published by Chaukhambha Sanskrit series office, Edition :Reprint 2005 Varanasi.
10. Charaksamhita (Agnivesa) with the commentators Chakrapani Dutta on Ayurved Dipika edited by Dr.RamKaran Sharma and Vaidya Bhagwan Dash, Chikitsa sthan chapter 12 Shotha Chikitsa, Pg. no. 515. Published byChaukhambha Sanskrit series office, Edition :Reprint 2005 Varanasi.
11. AshtangHridayam- Vaghbhat, By Prof K.R. Shrikantha Murthy Chikitsasthan chapter 8 Arsha Chikitsa Adhyay, Published by Chaukhambha Krishna Das Academy Edition Reprint, 2006 Varanasi Page. no 269-272.
12. Ashtang Hridayam- Vaghbhat, By Prof K.R.Shrikantha Murthy Chikitsa sthan chapter 8 Arsha Chikitsa Adhyay, Pg. no 265. Published by Chaukhambha krishna Das Academy Edition Reprint, 2006 Varanasi.
13. Sushrut samhita by Prof K.R.Srikamth Murthy with the commentaries Nibandh Sangraha of Dalhanacharya and Nyay Chandrika of Sri Gayadas, edited by Yadavji Trikamj I Acharaya, Nidansthan chapter 4 Bhagandara adhyaya, 5th Edition, Published by Chaukhambha Orientalia Varanasi, 2005; Page no 521.
14. Ashtang Hridayam- Vaghbhata, By Prof K.R.Shrikantha Murthy Chikitsasthan chapter 8 Arsha Chikitsa Adhyay, Published by Chaukhamba krishnadas acedamy edition: reprint, 2006; varanasi; Page. no 269-272.
15. Shashtri A.D., Sushrut Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, chikitshasthanam chapter S. Chi. 8/4, page no-45.
16. Shashtri A.D, Sushrut Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, Sutrasthanam chapter Su. Ni. 21/36, p-94.
17. Ibidem Sushruta Samhinta, Chikitsasthana 8/4, page no. 45.
18. Bailey and Love's Short Practice of Surgery, 25th edition, Normans S. Williams Publication, 2008; The anus and anal canal; page no.1266.
19. Ibiden Sushruta Samhinta, Chikitsasthana 17/29-32, 8/4, 6/4.
20. Bhaishjya Ratnavali, Bhagandara chikitsa/45.in: Sen G.Varanasi Chaukhamba Prakashan, 2007; page no.872.
21. Ibidem Sushruta Samhinta: Dalhan, Chikitsa Sthana, 8/54, page no.48.
22. Josef Fischer, Master of surgery, 5th edition, volume 1, chapter 148, page no.1613.
23. Josef Fischer Master of surgery, 5th edition, volume 1, chapter 148, page no.1613.
24. Murtaza Aktara, "Fistula in ano-An overview." JIMSA, Jan-March 2012; 25(1).
25. John Goligher, Surgery of the Anus Rectum and colon, A.I.T.B.S Publishers & distributors, Delhi: Fifth edition, 2002; 1(7): 178.

26. Somen Das, A concise text book of surgery, 13, Old Mayor's court, Kolkata, Fifth edition, 2008; page no1075.
27. Baiely & Love's Short Practice of Surgery, NORMANS S. WILLIAMS Publication, 2008; page no.1263.
28. John Morris, John A. Spencer, N.Simon Ambrose" MR Imaging Classification of perianal fistulas and its implications for patient Management. https://doi.org/10.1148/radiographi cs.20.3.g00mc15623.
29. A manual on Clinical Surgery by S.Das, 6th edition, chapter 36, page no.401.
30. Gordon's Principles and practice of surgery for the colon, rectum and anus: 3rd edition part1chapter 1: page no.195.
31. International study of scientific study, November 2016.
32. Bailey & Love's Short Practice of Surgery, Twenty Fifth edition, 2008; Chapter 69, page no.1264.
33. Bailey & Love's Short Practice of Surgery, Twenty Fifth edition, 2008; Chapter 69, page no.1264.
34. Cox SW, Senagore AJ, Luchtefeld MA, Mazier WP. Outcome after incision and Fistulotomy abscess. Am drainage for with Ischiorectal Surg, Aug 1997; 63(8): 686-9.
35. Hammond TM, Knowles CH, Porrett T, Lunniss PJ. The Snug Seton: short and medium term results of slow fistulotomy for idiopathic anal fistulae. Colorectal Dis, May 2006; 8(4): 328-37.
36. Dziki A, Bartons M. Seton treatment of anal fistula: experience with new modification. Eur J Surg, Jul 1998; 164.
37. Seow-Choen F, Nicholls RJ. Anal fistula. Br Journal of Surgery, Mar 1992; 79(3): 197-205.
38. Abbas MA, Lemus-Rangel R, Hamadani A. "Long term outcome of endorectal advancement flap for complex anorectal fistulae". American journal of Surgery, oct 2008; 74(10): 921-4.
39. Leng Q, jin HY. Anal fistula plug vs mucosa advancement flap in complex fistula in ano: A meta analysis. World journal gastrointestinal surgry,. Nov 27 2012; 4(11): 256-61.
40. Rojanasakul A. LIFT Procedure: a simplified technique for fistula in ano. Technique in coloproctology, September 2009; 13(3): 237-240.
41. LIFT Technique vs seton in management of Anal fistula Clinical trials.gov Identifier: NCT03311035.
42. Limura E, Giordano P (2015) Modern management of anal fistula. World J Gastroenterol, 21: 12-20.
43. Ferdinand Kockerling, Nassra N, Alam, and Neil J Smart, Treatment of fistula in ano with Fistula Plug a Review under Special Consideration of the Technique. Front. Surg., 16 october 2015|https://doi.org/10.3389/fsurg. 2015.00055
44. Anal fistula- Treatment-NHS www.nhs.uk
45. Anal fistula- Treatment-NHS www.nhs.uk
46. Anal fistula- Treatment-NHS www.nhs.uk
47. Pnkaj Garg and Mahak Garg, PERFACT procedure: A new concept to treat highly complex anal fistula, Gastroenerol, 2015 7; 21(13): 4020-4029.
48. OTSC System World J April set-Ovesco Endoscopy AG, https://ovesco.com
49. Sushruta, Sushruta Samhita. Edited by Ambikadutta Shastri. Chaukhambha Sanskrit Sansthan, Varanasi Reprint ed, 2010; 163.
50. Sushrut samhita by Prof K.R. Srikanth Murthy with the commentaries Nibandh Sangraha of Dalhanacharya and Nyay Chandrika of Sri Gayadas, edited by Yadavji TrikamjiAcharaya, Nidansthan chapter 4 Bhagandara Adhyaya, 5th Edition, Published by Chaukhambha Orientalia Varanasi, 2005; 521.
51. Shashtri A.D, Sushrut Samhita in AyurvedaTatva Sandipika, chaukhamba San-skritsansthan, nidansthanam chapter Su. Ni. 4/12, page no 246.