WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 12, Issue 17, 1173-1186. Review Article ISSN 2277–7105

"EVOLVING TREATMENT APPROACHES IN *BHAGANDARA* W.S.R FISTULA IN ANO"

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Article Received on
22 August 2023,

Revised on 12 Sept. 2023,
Accepted on 02 Oct. 2023

DOI: 10.20959/wjpr202317-29846

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ABSTRACT

Bhagandara, also known as Fistula in Ano, has seen significant advances in treatment over recent years. This abstract provides an overview of *Bhagandara* and Fistula in Ano, delving into the historical context, causes, symptoms, diagnosis, and the latest advancements in treatment.

Historically, *Bhagandara* has been recognized in ancient medical texts, with remedies and procedures documented in texts such as the *Sushruta Samhita*, an ancient Indian medical treatise from the 6th century BCE. These historical insights have paved the way for modern medical understanding.

The causes of Fistula in Ano are diverse, ranging from anal abscesses and infections to inflammatory conditions like Crohn's disease. Recent advances in diagnostic techniques, including high-resolution MRI imaging and endoscopic evaluation, have enabled more precise determination of the nature and extent of the condition.

Symptoms of Fistula in Ano, including pain, swelling, redness, and pus drainage near the anus, remain consistent with historical descriptions. However, modern treatment approaches have evolved significantly.

Innovations in the management of *Bhagandara* and Fistula in Ano include

IFTAK (Interception of Fistulous tract and application of *Ksharsutra*) technique: which is an advanced *Ksharsutra* technique for the management of fistula in ano1.

This technique is used in trans-sphincteric fistula in ano and has shown great potential in

management by minimizing the duration of treatment, mild post-procedural pain, and minimum scar mark.

Minimally Invasive Procedures: Advancements in minimally invasive surgery, such as video-assisted anal fistula treatment (VAAFT) and LIFT (ligation of intersphincteric fistula tract), have reduced patient discomfort and accelerated recovery times.

Biologic Therapies: For patients with underlying inflammatory conditions like Crohn's disease, biologic medications have emerged as effective treatments, targeting the root causes of the condition.

Stem Cell Therapy: Some experimental treatments involve the use of stem cells to promote tissue healing and reduce the recurrence of fistulas.

Advancements in Imaging: High-resolution MRI and endorectal ultrasound have enhanced the precision of diagnosis and treatment planning.

Personalized Treatment Plans: Healthcare providers are increasingly tailoring treatment plans to individual patients, considering factors such as the complexity and location of the fistula, overall health, and patient preferences.

KEYWORDS: Fistula in Ano, *Bhagandara*, Anal fistula, Perianal fistula, Anal abscess, Treatment of Fistula in Ano, Advances in Fistula in Ano treatment, Minimally invasive surgery for Fistula in Ano, Video-assisted anal fistula treatment (VAAFT), Ligation of intersphincteric fistula tract (LIFT), Biologic therapies for Fistula in Ano, Stem cell therapy for anal fistula, Diagnosis of Fistula in Ano, MRI imaging for Fistula in Ano, Endorectal ultrasound for anal fistula, Crohn's disease and anal fistulas, Colorectal surgery for Fistula in Ano, Proctology research on Fistula in Ano.

INTRODUCTION

Bhagandara, is a disease that affects the anal canal or rectum and the skin around the anus. It is a common condition that can cause discomfort, pain, and discharge. Here are some important points to understand about *Bhagandara*:

Bhagandara is a disease that results in a split or discontinuity in the *'Bhaga'* or *'Vasti'* (Perineal) region. The pathophysiology of *Bhagandara* involves the formation of an

abnormal connection between the anal canal or rectum and the skin around the anus. This can be caused by various factors, including infection, trauma, and inflammation. Diagnostic methods for *Bhagandara* include physical examination, imaging studies, and diagnostic tests such as a fistulogram, which can help confirm the diagnosis.

Bhagandara is a common disease occurring in the ano-rectal region. *Acharya Sushruta*, considered the father of surgery, has included this disease as one among the *Ashtamahagada*. Initially, it presents as a *pidika* around *guda* and when it bursts out, it is referred to as *Bhagandara*. It can be correlated with Fistula in ano as described in modern medical science.

Fistula in ano is a tract lined by granulation tissue which opens deeply in the anal canal or rectum and superficially on the skin around the anus. The true prevalence of Fistula-in-ano is unknown. However, one study conducted by Sainio showed that the prevalence rate of Fistula-in-ano is 8.6 cases per 100,000 populations.

Treatment options for *Bhagandara* include both *Ayurvedic* and Western medical approaches. *Ayurvedic* treatments include *Ksharasutra* therapy, which involves the use of a medicated thread to treat the fistula. Western medical treatments include surgical procedures such as fistulotomy, Ligation of Intersphincteric Fistula Tract (LIFT), and endo-rectal advancement flap techniques.

Bhagandara is difficult to treat because of its high recurrence rates. Recurrence rates for surgical procedures range from 5% to 50%, depending on the type of surgery performed and the severity of the fistula. Further research is needed to develop more effective treatments for *Bhagandara* and Fistula in Ano.[1-5]

Etymology

The etymology of the word *Bhagandara* can be traced back to the combination of two terms, *"Bhaga"* and *"Darana,"* which are derived from the roots *"Bhaga"* and *"dri,"* respectively. The term *"Bhaga"* refers to all the structures surrounding the *Guda,* including the *yoni* and *vasti*.[6]

Definition

Bhagandara is defined as the splitting of the *Bhaga, Guda,* and *vasti,* along with the surrounding skin surface. It is further described as a deep-rooted, unripe *pidika* within two angula circumference of the *Guda Pradesh,* associated with pain and fever. This is known as

Bhagandar pidika. When it suppurates and bursts open, it is referred to as *Bhagandar*.[7]

Nidana (Aetiology) Of *Bhagandara*

The following factors are responsible for pathogenesis of *Bhagandara:*[8]

- ***AHARAJA***

1) Ruksha or Kashaya-Rasa Sevana

2) Apathya Sevana

3) Asthi yukta Ahara Sevanaa

- ***VIHARAJA***

1) Excessive coitus
2) Sitting in awkward posture
3) Straining during defecation
4) Excessive Horse & elephant ride

- ***AGANTUJA* FACTORS**

1) Krimi

2) Asthi shalya

3) Improper use of *Vasti – Netra*

4) Manas dosh

Classification of *Bhagandara*

As per *Sushruta*

1) ***Shataponaka Bhagandara:*** This type is caused by an aggravation of the *Vata dosha* and is characterized by excessive discharge, pain, and a sieve-like appearance with multiple external openings.[9-10]
2) ***Ushtragriva Bhagandara:*** This type is caused by an aggravation of the *Pitta dosha* and is characterized by a yellowish or reddish discharge, burning sensation, and an external opening that resembles the neck of a camel.[11-12]
3) ***Parisravi Bhagandara:*** This type is caused by an aggravation of the *Kapha dosha* and is characterized by a white or pale discharge, itching, and an external opening that resembles the ear of a cow.[13-14]
4) ***Sambukavarta Bhagandara:*** This type is caused by an aggravation of all three *doshas* and is characterized by a mixed discharge, severe pain, and an external opening that resembles the hole of a flute.[15-16]

5) ***Unmargi Bhagandara:*** This type is caused by an aggravation of all three *doshas* and is characterized by a mixed discharge, severe pain, and an external opening that does not follow a straight path.[17-19]

As per *Vagbhata*

He explained total 8 types above 5 plus along with following:-

6. ***Parikshepi Bhagandara:*** This type is caused by an aggravation of the *Vata* and *Pitta doshas.* It is characterized by a fistula with a curved track all around the anal canal, a discharge of pus mixed with blood, and a horseshoe-shaped appearance.[20]
7. ***Riju Bhagandara:*** This type is caused by an aggravation of the *Vata* and *Kapha doshas.* It is characterized by a linear track associated with pain, a discharge of pus, and a low type fistula or fistula with a straight track.[21]
8. ***Arsho-bhagandara:*** This type is caused by an aggravation of the *Kapha* and Pitta *doshas*. It is located at the base of the *Arsha* and is characterized by burning pain, itching sensation, and continuous discharge.[22]

***Samprapti*[23]**

The pathogenesis of *Bhagandara* or any disease, according to *Ayurvedic* principles, can be understood through the *'Ṣat Kriyākālas',* which are as follows:

1. ***Saṇcaya*** (stage of accumulation): Incorrect diet and lifestyle or trauma to the local region leads to the accumulation of *doshas.*
2. ***Prakopa*** (stage of provocation): Continued indulgence in *Nidāna* causes the *doshas* to become aggravated locally.
3. ***Prasara*** (stage of propagation): The aggravated *doshas* move out of their sites and spread to distant places, causing derangement of *agni* and *doshas* situated elsewhere through *srotas.*
4. ***Sthānasamśraya or pūrvarū*pa** (stage of localisation): The *doshas* localize in and around the *guda,* vitiate the *rakta and māmsa,* and cause pain in the hip and anal region, itching, burning sensation, and swelling in and around the region of *guda.*
5. ***Vyakti or rūpa*** (stage of manifestation): *Bhagandara piḍakā* forms into *Bhagandara* upon suppuration.
6. ***Bheda*** (stage of complications): The track goes deeper, vitiating the deeper *dhātu* and *aśaya,* communicate with them, and discharge flatus, faeces, and semen from the external opening.

Purva Rupa, of *Bhagandara* include pain in the *kati-kapala* region, itching, burning sensation, and swelling in the *Guda*. These symptoms may become more severe during activities such as riding and defecation.[23]

Rupa, of *Bhagandar*a include a discharging *Vrana* within a two-finger periphery of the perianal region, with a history of *Bhagandarpidika* that bursts many times, heals, and recurs repeatedly. This condition is painful. The specific type of discharge, pain, and characteristics vary according to the type of *Bhagandara* and the involvement of the *doshas.*[23]

Fistula in Ano[24-30]

Introduction

Fistula in ano, often referred to as an anal fistula, is a condition that affects the anal canal and can cause discomfort, pain, and even embarrassment for those affected. This condition is more common than you might think but is not widely discussed. In this article, we will delve into what a fistula in ano is, its causes, symptoms, and available treatment options.[24]

Description

A fistula in ano is an abnormal tunnel or passage that forms between the inside of the rectum or anal canal and the skin around the anus. It typically develops as a result of an infection in an anal gland. When the infection doesn't heal properly, it can create a passage for pus to drain out through an opening near the anus, leading to the formation of a fistula.

Causes of Fistula in Ano

Anal Abscess: Most fistulas in ano develop as a complication of an anal abscess, which is a painful collection of pus in the anal or rectal area.

Crohn's Disease: People with Crohn's disease, an inflammatory bowel disease, are more prone to developing anal fistulas.

Infections: Infections that are not properly treated can lead to the formation of a fistula.

Injury or Surgery: Trauma or surgical procedures involving the anal area can also result in fistulas.

Common Symptoms

The symptoms of a fistula in ano can vary in severity, and not everyone with this condition

will experience all of them. Common signs and symptoms include:

Pain and Discomfort: Persistent pain in the anal region, which may worsen during bowel movements.

Drainage: Pus or foul-smelling discharge from an opening near the anus.

Swelling and Redness: Swelling and redness around the anal area.

Fever: In some cases, fever may develop, indicating an infection.

Diagnosis

Diagnosing a fistula in ano typically involves a thorough medical examination and sometimes imaging studies like MRI or an ultrasound. The doctor will inquire about your symptoms, medical history, and perform a physical examination to determine the extent and location of the fistula.[30]

Management[31-34]

Preventive measures for *Bhagandara* include avoiding the etiological factors of the disease, known as *Nidāna parivarjana*, and preventing the suppuration of *piḍakā* (boil). *Vāgbhata* advised measures such as *dehaśodhana*, *raktamokṣana,* and *pariṣeka* during the stage of piḍakā to avoid suppuration. *Suśruta* mentioned eleven measures of *ṣaṣti upakramās* in vraṇa cikitsa for the treatment of *Bhagandara.* These measures include *Apatarpaṇa, Abhyanga, Swedana, Pācana, Visrāvaṇa, Sneha na, Śodana Ālepa, Pariśeka, Vimlāpana, and Upanāha*.[31]

The management of suppurative ***Bhagandarapidika*** involves **medical, surgical, and parasurgical measures**.

Medical management includes the application of *Vartee, Kalka, Kwatha, Tail, Ghrita,* etc., and the use of drugs such as *Triphla Gugglu, Saptavinshati Gugglu, and Navakarshika Guggulu. Rakatamokshana*, or bloodletting, is commonly achieved through *Jaloukavacharana* and can prevent the suppuration of *Pidaka* and minimize inflammation and infection in the post-operative period.[32]

Surgical procedures for *Bhagandara* include *Chedan* (excision) and *Bhedan* (incision) over the fistulous track according to the type of fistula. For example, ***Shatponak Bhagandara*** may be treated with *Langlaka, Ardhlanglaka, Sarvatobhadraka, or Gotirthaka.* ***Ushtragreeva Bhagandara*** may be treated with *Eshana-chedana-kshara lepana.* ***Parisravi Bhagandara*** may be treated with *Kharjurapatraka, Ardhachandra, Chandrakara, Suchimukha, or*

Awangmukha. ***Unmargi Bhagandara*** may develop due to the impaction of a foreign body in the distal bowel (*Guda*) and requires removal of the foreign body followed by *Bhedana and Agnikarma*. ***Arsho Bhagandara*** may require excision of the tag and fissure bed prior to *Ksharsutra* therapy.[33]

Parasurgical measures for *Bhagandara* include *Agnikarma*, which is advocated in all types of *Bhagandara* except *Ushtragreeva*. It acts as a hemostatic during the procedure and also prevents recurrence. *Ksharakarma* involves the application of *kshar* using *sutra, Vartee, Pichu,* or local application in the form of paste. *Ksharsutra* therapy involves the use of a specially prepared medicated thread processed with certain medicinal plants such as *Apamarga, Arka, Snuhi, Guggulu* etc. The thread is passed into the fistulous track from the external opening and taken out from the anal canal via the internal opening. It is then tied outside the anal aperture and left in situ for seven days. *Ksharsutra* is changed every seventh day and the patient is released immediately after the procedure and advised to continue their routine work.[34]

A recent advancement in ***Ksharsutra therapy*** is **IFTAK** (Interception of fistulous track with application of *ksharsutra*), a modified technique developed by Dr M. Sahu at Banaras Hindu University in Varanasi. In this technique, the proximal part of the fistulous track is intercepted at the level of the external sphincter along with the application of *Ksharsutra* from the site of interception to the infected crypt in the anal canal. The procedure aims to eradicate the infected anal crypt with no or minimal damage to anal sphincters by using *ksharsutra* (medicated seton). The use of *ksharsutra* causes extensive fibrosis and favors proper healing of fistula while reducing chances of recurrence.[35]

A recent advancement in the **Management of Fistula in Ano**

Seton: Advanced techniques have been developed to improve the treatment of anal fistula using Seton. One such technique is the modified Seton, which combines drainage and cutting mechanisms to provide continuous drainage of the fistula and prevent the formation of abscesses. This technique has been shown to be effective in treating complex and recurrent fistula in ano, with low rates of incontinence and recurrence. Another advanced technique is the rerouting of the fistula tract, which relocates the fistula to a position between the sphincter and allows for immediate repair of the external anal sphincter. This technique has been shown to reduce postoperative healing time and the number of patients requiring secondary fistulotomy. In summary, these advanced techniques, such as pulling Seton, EAS-sparing

Seton after rerouting, and rerouting Seton around the EAS combined with mucosal advancement flap, have become more efficient methods for treating high anal fistula compared to conventional Seton methods.[29,37]

The OTSC (Over-the-Scope-Clip) Proctology Device is an elastic nitinol alloy closure clip system used to close the fistula tract from the inside by placing the device on the internal opening of the fistula. Studies have shown that this technique can be effective in treating anal fistula, with low rates of incontinence and recurrence. However, the effectiveness of the OTSC proctology device needs further validation with large-scale prospective randomized trials.[36]

FIPS:- Fistulotomy is a preferred technique for simple anal fistula treatment, but it has drawbacks such as high incontinence rates and keyhole deformity. To address these issues, a sphincter-sparing method called FIPS (Fistulectomy and Primary Sphincteroplasty) has been developed. This technique reduces the risk of postoperative keyhole deformity and fecal incontinence while decreasing the recurrence rate after surgery. FIPS has been shown to be a simple, efficient, and low- recurrence therapy for anal fistula, especially for simple anal fistula. However, patients should be informed of the potential risk of incontinence and keyhole deformity after surgery.[36]

Filling therapies:- These therapies involve the use of various biomaterials to create plugs for the fistula tract. For example, the OTSC® proctology device uses an elastic nitinol alloy closure clip to close the fistula tract from the inside. Other filling matrices include platelet-rich plasma (PRP), autologous cartilage, fat, autologous micro-fragmented adipose tissue, and allogeneic bone marrow-derived mesenchymal stromal cells (MSCs). These therapies have shown promise in treating anal fistula, with low rates of incontinence and recurrence. However, they also have a relatively high long-term recurrence rate. Further clinical trials with larger sample sizes and longer follow-up periods are needed to validate the effectiveness of these therapies.[36]

Photodynamic Therapy (PDT) is a treatment that combines light energy and photosensitizers to induce photooxidative damage to target tissues or cells. It has been mainly used in cancer treatment before but has recently been introduced for the treatment of anal fistula. Studies have shown that PDT can be an effective sphincter- sparing therapy with a simple surgical procedure, high safety, and healing rate ranging from 65.3 to 80%. However,

clinical research related to PDT is still limited, and the cost of this technique is higher than that of traditional surgery.[36]

Other advanced surgical procedures have been developed for the treatment of anal fistulas, such as proximal superficial cauterization, emptying regularly fistula tracts and curettage of tracts (PERFACT) procedure, transanal opening of intersphincteric space (TROPIS), and tunnel-like fistulectomy plus draining Seton combined with incision of internal opening of anal fistula (TFSIA). These techniques have shown promise in treating anal fistula, with low rates of incontinence and recurrence.[36]

Non-surgical procedures for the treatment of anal fistula have also emerged in recent years. These include washing the fistula with 1% silver nitrate solution and using ozone to treat chronic anal fistula. However, the effectiveness of these non-surgical methods is often limited and they are not considered satisfactory alternatives to anal fistula surgery.[36]

Endo-rectal Advancement Flap Techniques:- In endo-rectal advancement flap techniques, complete excision of the tract and the subsequent defect with a raised rectal mucomuscular flap is performed. This technique is effective for complex fistulas.[37]

DISCUSSION

Fistula in Ano, or *Bhagandara,* has a rich historical background but has seen significant advancements in its understanding and treatment. While historical texts like the *Sushruta Samhita* provided early insights, contemporary medicine has expanded our knowledge of its causes, including infections, inflammatory diseases, and surgical complications.

Symptoms, such as pain, swelling, redness, and pus drainage near the anus, remain consistent. Modern diagnostic tools, like high-resolution MRI imaging and endorectal ultrasound, have revolutionized assessment and treatment planning.

The most notable progress is in treatment approaches. IFTAK, Minimally invasive procedures such as Video-Assisted Anal Fistula Treatment (VAAFT) and Ligation of Intersphincteric Fistula Tract (LIFT) offer quicker recovery and sphincter preservation. Biologic therapies are effective, particularly for those with underlying inflammatory conditions, and stem cell therapy shows promise in tissue healing.

CONCLUSION

Bhagandara, or Fistula in Ano, is a condition rooted in history but significantly advanced in terms of understanding and treatment. Modern medicine has made remarkable strides in diagnosis and treatment, offering patients a range of options that are less invasive and more personalized. These advancements aim to reduce patient discomfort, enhance outcomes, and minimize the risk of recurrence. As research and technology continue to progress, the management of Fistula in Ano is expected to become even more patient-centered and effective. This discussion highlights the evolution of treatment approaches and underscores the importance of staying informed about these advancements to provide the best care for individuals affected by this condition.

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