



Review Article

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COMPREHENSIVE REVIEW ON BHAGANDAR (FISTULA-IN-ANO)

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ABSTRACT

The complete and holistic description of Bhagandar (Fistula in ano) has been explained in Ayurvedic classical texts. The clinical features of Bhagandar described in Ayurvedic texts resembles perfectly with 'Fistula in Ano'. In modern surgery, various treatment modalities are available to treat fistula however, the recurrence rate of fistula is very high which is a big challenge before the proctologists. Further, amongst all, Ayurvedic para-surgical procedure Ksharasutra has been proved more effective treatment in fistula-in-ano, having minimum recurrence than modern treatment alternatives. In this review article, we have compiled all the scattered description available about Bhagandar (Fistula) in various Ayurvedic and modern surgical texts.

Keywords: Sushrut Samhita, Bhagandar, Ksharasutra, Fistula in Ano, Anal Fistula surgery

INTRODUCTION

In this article, we have tried to compile all the scattered description about Bhagandar available in various Ayurvedic texts such as Sushrut Samhita, Charadatta, Charak samhita, Vagbhat, Bhaishajya ratnavali, Ras tarangini etc. and also incorporated available common modern surgical description.

The most scientific description of Bhagandar is given in Sushrut Samhita, a text book of Ancient Indian Surgery written about 1000 B.C by Sushruta, the Father of Surgery. Further, Bhagandar is described under 'Ashtamahagad' i.e. disease difficult to treat.

The Definition, Etiology, Types, Pathogenesis as per Shatkriyakal (onset and progress), prodromal features, clinical features, clinical interpretation by examination, stage wise management and even the complications of Bhagandar (Fistula) has been perfectly explained by Sushruta. The clinical features of 'Bhagandar' described in Ayurvedic text resembles with 'Fistula in Ano'.

Various treatment modalities are practiced for fistula management such as Fistulotomy, Fistulectomy, Fistulectomy with Seton ligation, Anal Fistula Plug, Fibrin Glue, VAAFT (Video Assessed Anal Fistula Treatment), LIFT (Ligation of inter sphincteric fistula tract) and Ksharasutra ligation therapy (Ayurvedic Cutting Seton) with varied prognosis.

Further, the post surgical complications such as high recurrence rate, chance of incontinence, wound care especially in complex fistulas are still the challenges in fistula management. However, Ksharasutra procedure is simple, easy, safe, feasible and equally effective in the management of fistula in ano as compared to other surgical techniques.¹

Hope this article will enlighten the various perspective of Bhagandar (Fistula in ano) and will be useful to research

scholars of Ayurved specially working in the field of fistula management.

Definition of fistula in modern texts

Fistula-in-Ano is an inflammatory tract, which has an external opening (secondary opening) in the peri anal skin and an internal opening (primary opening) in the anal canal or rectum. This tract is lined by unhealthy granulation tissues and fibrous tissues.²

Definition of bhagandar (fistula) in Sushrut samhita

A disease or condition causing severe referred pain to Bhag (Perineum), Gud (Anal) & Basti (Pelvis) is called Bhagandar. The manifestation begins with a boil (Abscess) around peri anal region and if it is not treated properly can burst & convert into discharging track and is named as– Bhagandar.³

Pathogenesis of fistula in modern texts

Etiology in modern medical science is divided in two categories. **Non specific-** This is due to Crypto glandular infection, Sequel of Anorectal abscess or Previous Pyogenic Abscess.

Specific- These are the diseases or underlying pathologies which can result in fistulous condition like Tuberculosis, Anal fissure, Ulcerative colitis, Crohn's disease, Leukemia, Colloid Carcinoma, Foreign body intrusion, Pelvic inflammation, Trauma, Exposure to radiation, Lymphogranuloma venerum, Immuno compromised state, Infectious dermatitis & other Rectal, Obstetrical or Gynecological operations.⁴

Pathogenesis (samprapti) of bhagandar in Ayurved Pathogenesis mentioned in Sushrut samhita

Sushrut has beautifully described the pathogenesis of Bhagandar. He quoted that when a person is indulged in Mithya Aahar- Vihaar (un salutary lifestyle & food habits), Vata in his body get aggravated & localized in anal canal. Further, it vitiate

the muscle & blood, giving rise to Pitika (Boil) & if this condition is not treated in time, this Pitika (Boil) suppurate & burst resulting in a discharging track which is known as 'Bhagandar'.⁵

Pathogenesis mentioned in Charak samhita

Charak has described pathogenesis of Bhagandar in very practical way. As per Charak samhita etiological factors like Krimi Bhakshan, Asthi Kshanan, Pravahan, Utkataasan & Horse riding vitiate the Doshas & Causes Boil at peri anal region which after Suppuration burst & turns to Bhagandar.

In this context Krimi Bhakshan can be co-related with any infection caused by micro organism or Crypto glandular infection. Trin- Asthi Kshanan can be considered as sought of Bhagandar due to Trauma, Pravahan is straining during act of defecation as seen in Dysentery etc. causing inflammatory changes in rectum and anal canal and Utkataasan is continuously sitting in Squatting posture causing ischemia and micro necrosis at pressure point. Similarly, cause like Horse riding in present scenario can be compared with over motor bike driving causing ischemic necrosis at cellular level triggering inflammation and infection.^{6,7}

Pathogenesis mentioned in Ashtanghridayam samhita

In Astang Hridayam, Acharya Vagbhata has mentioned few distinct causes of Bhagandar such as riding on elephant or horse for long period, sitting on hard surfaces, squatting Posture, maturing of sinful acts of previous lives and abusing ascetics etc.

Here, Vagbhata has added two very distinct causative factors as causative factor. The exact reason of inclusion of maturing of sinful acts of previous lives & abusing ascetics is not understood but we can consider this as indulging in indecent activity (anti salutary activity as advocated in Sadvritta) by a non-self-possessed person causing vitiation of doshas.⁸

Pathogenesis mentioned in Vagbhata samhita

Pathogenesis starts with indulgence in above mentioned factors causing vitiation of blood & muscle tissues in the rectum which is followed by formation of ulcer (Vran), preceded by pitika (Eruption/Boil). This condition if not treated properly turns to discharging opening either to interior or exterior around peri anal region and named as Bhagandar.^{9,10}

Clinical features of fistula in modern texts

The cardinal feature of fistula in ano is recurrent discharging boils with single or multiple external openings.

The other clinical manifestations as per modern science includes granulation tissues pouting out from the external opening of the fistula (chronic cases) and internal opening felt as a nodule on ano rectal wall. Similarly, tenderness and indurations of the skin in inflammatory stage with fever may be present due to suppuration.

Clinical features as per Ayurved

Clinical features mentioned in Sushrut samhita

The sign and symptoms of Bhagandar are elaborated nicely in Ayurvedic text. Even the prodromal features (Purv roop) has been described, so as to diagnose the condition at the earliest for better management. The prodromal features of Bhagandar mentioned are pain at anal region after defecation, itching and

swelling around peri anal region, lower backache with pain at anal region after long driving and suppurative -induration (Abscess formation) at peri anal region associated with pain & burning sensation at anal region.¹¹

Bhagandar is manifested by severe referred pain to Bhag (Perineum), Gud (Anal) & Basti (Pelvis). The clinical features are described beautifully as per the stages i.e. progress of disease commonly known as Shatkrikal. Also, the cardinal features are further explained as per the pre-dominance of doshas like in Vataj type the discharge is associated with flatus, feces & pricking pain. Similarly, in Pittaj type there is very foul smelling with burning pain and in Kaphaj type there is sticky discharge with comparatively more itching.¹²

Bhagandar: Shat kriya kal (Six stages of fistula)

The complete pathogenesis of Bhagandar has been described in Sushrut samhita under heading Shatkriyakal (six periodic stages of fistula), beginning from Sanchaya (Stage of Accumulation of Doshas at normal sites), Prakopa (Stage of Provocation), Prasara (Stage of Propagation), Sthana sanshraya (Stage of Localization), Vyakti (Stage of Manifestation) up to Bheda (Stage of Complication) which perfectly reveals onset and progress of disease.¹³

Classification of fistula in modern texts

There are many classifications available in modern text viz. Milligan Morgan & Goligher's classification, Ernst mile's classification, Melcheor Goz classification, Steltzner classification and Park's classification (as per relation with sphincters) however, Milligan Morgan & Goligher's classification is more applied.

Low level fistula: Low level fistula open into the anal canal below the ano rectal ring. They are further subdivided into Subcutaneous, Submucosal, Intersphincteric & Suprasphincteric fistula.

High level fistula: High level fistula open into the anal canal at or above the ano- rectal ring. They are further sub divided into Extra sphincteric or Supra levator, Trans sphincteric & Pelvi-rectal fistula.¹⁴

Classification of bhagandar according to Ayurveda

The classification criteria in Ayurvedic text is based on causative vitiated Doshas, consistency of discharge, the smell, the number of openings and their course or anatomical appearance.

Types of Bhagandar mentioned in Sushrut samhita

Acharya Sushrut has mentioned five types of Bhagandar. Depending upon the resemblance in clinical presentation, we can co relate these Ayurvedic classifications with modern types of fistula in ano as follows:

1. Shatponak (Vataj) resembles with fistula having multiple openings.
2. Ushtagreev (Pittaj) resembles curved Fistula resembling the 'the neck of camel'
3. Parisraavi (Kaphaj) resembles fistula with big cavity & profuse discharge.
4. Shambukavart (Sannipataj) is fistula resembling with 'horse pedal' or horse shoe.
5. Unmargi (Kshataj) can be treated like fistula caused by trauma.

Further, Sushruta has advocated that Vataj, Pittaj & Kaphaj type of Bhagandar are Kashtsadhya (difficult to treat) whereas, Sannipataj & Aagantuj are Asadhya (non curable).^{15,16}

Types of Bhagandar mentioned in Charak samhita

In Charak samhita, Charak has mentioned five types of Bhagandar. They are- Vataj, Pittaj, Kaphaj, Tridoshaj and Kshataj Bhagandar.¹⁷

Types of Bhagandar mentioned in Vagbhata samhita

In Vagbhata samhita, Vagbhata has mentioned eight types of Bhagandar viz. Shatponak or Vataj, Ushtageev or Pittaj, Parisravi or Kaphaj, Parikshepi or Vata Pittaj, Riju or Vata Kaphaj, Arsho Bhagandar or Kaph Pittaj, Shambukavarta or Tridoshaj and Unmargi or Kshataj bhagandar.¹⁸

Management of fistula as per modern texts

Un-ripen abscess stage: When patients clinical feature does not reveal suppuration then, Oral Anti biotic, Anti inflammatory drugs are given. Similarly, Glycerin Magnesium Sulfate dressing locally is advised.

Non-burst abscess stage: If boil is associated with indurations and not resolved with palliative measures, then it is treated like abscess. Surgical incision & drainage is performed under aseptic precautions under suitable anesthesia, followed by regular dressing and medicines.

Treatment of Low-level fistula

If the above conservative treatment fails and ultimately fistula is formed then, commonly, surgical treatment such as Fistulotomy or Fistulectomy is practiced.

Fistulotomy -In fistulotomy, the corresponding track is laid open with the knife followed by scrapping of the unhealthy granulation tissues on the wall of the fistula.

Fistulectomy - In this, after the corresponding track is laid open with the knife, the whole track with the fibrous tissue is excised. The cavity is packed with roller gauze wrung with antiseptic solution. However, the recurrence rate with fistulectomy ranges up to 9% depending on type of fistula.¹⁹

Treatment of High-level fistula

Supra levator fistula: Supra levator fistula is mostly secondary to Crohn's disease or Ulcerative colitis or Carcinoma or foreign body. This requires treatment of primary condition & the fistula is ignored. Any attempt to open the fistula may cause incontinence.

Trans-sphincteric fistula with a perforating secondary track: In practice, for Trans-sphincteric fistula with a perforating secondary track, the surgery is done by two different methods.

Method 1- Fistulotomy of lower track with scrapping of high fistula.

Method 2 (Gabriel's two stage operation) - In this method, surgery is performed in two stages. In first stage, Fistulotomy of lower fistula track with Seton ligation is done. Later on (after 6 weeks), Fistulectomy of remaining track is done to minimize recurrence.

Treatment Alternatives- Apart from conventional surgical intervention, there are few other treatment modalities practiced with varied prognosis. These treatment alternatives are Anal Fistula Plug, Fibrin Glue, VAAFT (Video Assessed Anal Fistula Treatment) and, LIFT (Ligation of inter sphincteric fistula tract).²⁰

Similarly, an Ayurvedic para surgical procedure, commonly known as Ksharsutra therapy (Ayurvedic Cutting Seton) is also recommended and successfully practiced in India and sub continent with comparatively less complications particularly in low anal fistulas.

Treatment of Bhagandar (fistula) mentioned in Sushrut samhita

Acharya Sushrut has beautifully described stage wise treatment of Bhagandar. He has advocated that in un-ripen stage, one should follow 'Apatarpan' to 'Virechan' measures of 'Vran chikitsa' (wound management) and once the Pitika (Boil) achieves the ripening stage, Snehan, Avagah Swedan (oleation and fomentation) of the peri anal region should be practiced. Further, if the Pitika does not resolve then, exploration of the track (Fistulotomy) should be done with the help of fistula probe. After, fistulotomy, Kshar (medicated caustic paste) should be applied or Agnikarm (cauterization) should be done in the explored bed of ulcer.

Post operatively, for pain management 'Yashtimadhu tail' or 'Anu tail' sinchan (irrigation of medicated oils over the ulcerative lesion) & Swedan (fomentation/Setz bath) is advised to the patient.

In the chronic and recurrent conditions, where the fistula track is partially fibrosis or the track is not patent, 'Bhagandar nasahan tail' (medicated oil) can be irrigated through the fistulous track to make the track patent & in those who are not willing to undergo surgery.²¹

Further, in 'Visarp Nadi Stanrog chikitsa' chapter of Sushrut samhita, it has been described that those patients who are not willing or not fit for surgery, Nadi vran (sinus) can be treated with 'Ksharsutra'. Furthermore, in this context Acharya Sushrut has quoted that Bhagandar can also be treated with the same 'Ksharsutra'.^{22,23}

Treatment of Bhagandar (fistula) mentioned in Charak samhita

Interestingly, in Charak Samhita, Acharya Charak has described treatment of Bhagandar in 'Shwayathu chikitsa' Chapter in context with Bhagandar chikitsa. Charak has quoted that if the Pidka (Boil) does not subside by its own, Purgation should be given to the patient. Further, fistula track should be explored with the help of probe. Ulcer bed should be cleansed & cauterization should be done with Hot oil & then shall be treated like Vran (ulcerative lesion). However, in chronic cases, fistula track should be excised with 'Ksharsutra' ligation and wound management should be done.²⁴

Treatment of Bhagandar (fistula) mentioned in Chakradata samhita

In Chakradata samhita, treatment of Bhagandar is mentioned in the chapter named 'Bhagandar Chikitsa'. The Kriya sutra (line of treatment) described in Chakradata samhita is as follows:

Apakwa (Un-ripen abscess) Stage: As soon as swelling of anal region is detected, it should be dried & cleansed (Shodhan karma). Patient should be kept on 'Apatarpan' i.e. light diet & purgated & bloodletting is performed so that it does not suppurate. Vat patradi Lep (Medicated paste poultice) should be applied over the affected site.

Pakwa (Suppurative-abscess) Stage: Once, the Pidka (Boil) has achieved Pakwa stage (Suppuration), exploration of the track should be done with the help of fistula Probe. After, fistulotomy, Kshar should be applied or Agnikarm (cauterization) should be done in the explored bed of ulcer.

In Chakradatta, use of Rasanjanadi Lep and Kushthadi Pralap (local application of medicated paste) has been advocated in this context. Similarly, Snuhi dugdhadi Varti (medicated wicks) application is also mentioned along with internal use of Navkarshik Guggulu and Saptavinshati Guggulu as a palliative regimen.²⁵

Further, in the chapter 'Nadi vran chikitsa', where utility of Ksharsutra is mentioned for exploration of Nadi Vran (sinus), based on the same principle, Chakradatta has advocated use of Ksharsutra in the management of Bhagandar also.

Furthermore, the demonstration of Ksharsutra Nirman (Methodology of preparation) & method of Pratisarniya Kshar (procedure of local application) is described in Chakradatta samhita, in chapter named 'Arshchikitsa'. However, in Ksharsutra preparation only Haridra churna (turmeric powder) & Snuhi Kshir (Latex of *Euphorbia nerrifolia*) is mentioned. There is no instruction of use of Kshar coating in any of the classical text. Probably, the nomenclature of medicated thread is based on alkaline property or action of medicated thread (Ksharsutra).

Treatment of Bhagandar (fistula) mentioned in Vagbhata samhita

Vagbhata has also described management of Bhagandar (fistula) as per the stages:

Pitika (Un-ripen abscess) Stage: Effective treatment including Panchkarma like Vaman (induced emesis), Virechan (induced purgation) & Raktamokshan (bloodletting) can be done to suppress induration (preventing Ripening or Suppuration).

Pakwa (Ripen-Abscess) Stage: In Pakwa awastha (ripen abscess stage), Incision & Drainage of Pakwa vranashoth (Abscess), followed by application of Kshar (medicated alkaline paste locally) or Agnikarma (Cauterization) at the bed of explored track is mentioned.

Special reference about 'Parikshepi Bhagandar' (high anal complex fistula): In 'Parikshepi' type of Bhagandar (high anal complex fistula), Vagbhata has directly advocated exploration of fistulous track by 'Ksharsutra' ligation. This is the only direct classical text reference available, which directs to use Ksharsutra for fistula ablation.²⁶

In chapter 'Granthi Arbud Shlipad Apachi Nadi pratisheda Adhyay', while describing Nadi vran chikitsa, Vagbhata has mentioned various 'Varti' (medicinal wicks) to be tried to explore the track or Medicated oil can be used for 'Nadi vran puran' (irrigation purpose). Further, in 'Nadi Vran' management Vagbhata has advocated that patient who denies or not fit for surgery, in those cases, exploration of sinus can be

done with the help of Ksharsutra and the same Ksharsutra can be used to explore fistulous track also.

Treatment of Bhagandar (fistula) in 'Bhaishajya ratnavali' text book

In the text book 'Bhaishajya Ratnavali' (Vidyotini Commentary), management of Bhagandar is described precisely in chapter 'Bhagandar chikitsa prakaran' as follows:

Apakwa stage (Un-ripen abscess): Vaman (induced emesis), Virechan (induced purgation) & Raktamokshan (bloodletting) procedures are advised.

Bhagandar stage (established fistula): Vran Varti (medicinal wicks) prepared from Snuhi ksheer (Latex of *Euphorbia nerrifolia*), Ark ksheer (Latex of *Calotropis gigantea*) and Daruharidra (*Berberis aristata*) can be tried. For the first time, 'Triphala kwath vran dhavan' (wound cleansing or Seitz bath with medicated decoction) is advised as part of wound management in Bhagandar patient.

Further, Nishaadyam Tailam or Saindhavadi Tail - Vran-puran (medicated oil irrigation) can be tried locally in Bhagandar. Similarly, Narayan ras, Saptavinshati Guggulu or Saptang Guggulu are advocated internally, for the effective management of Bhagandar.²⁷

Furthermore, in the chapter 'Nadi Vran chikitsa', use of Ksharsutra for Bhagandar treatment and demonstration of 'Ksharsutra application' procedure is also mentioned in brief.

Ksharsutra application procedure: The Ksharsutra embedded probe (resembling a needle with eye) should be introduced from the external opening of the Bhagandar and allowed to follow the track till internal opening. Further, it is smoothly taken out through the anal canal. While doing this, the Ksharsutra is automatically placed in the fistulous track and then, two ends of the thread are brought together and tied.²⁸

The Author has also mentioned indications of Ksharsutra in other hyperplastic conditions. It has been advocated to do ligation of Ksharsutra at the base of pedunculated growth, fibroid, tumor etc. to achieve necrosis induced excision.²⁹

The Ksharsutra Nirman i.e. process of preparation of Ksharsutra and Kshar nirman i.e. preparation of Kshar (Alkaline paste) is perfectly demonstrated in text book 'Ras Tarangini'.³⁰

Pathya pathya (Do's and Don'ts) advocated for Bhagandar

The aim behind advocating Pathyapathya i.e. Do's and Don'ts for Bhagandar patients is to avoid recurrence of disease. The patient shall avoid heavy exercise, over indulgence in sexual activity, strenuous work or fighting to exhaust, excessive driving and heavy meal for one year after recovery from Bhagandar.³¹ The causative factors mentioned are basically responsible for Agnimandya (Digestive process suppressants) and can further vitiate the Vata dosh, ultimately, triggering pathogenesis of Bhagandar.

CONCLUSION

The most scientific description of Bhagandar is given in Sushruta Samhita- a text book of 'Ancient Indian Surgery' written about 1000 B.C by Sushruta, the Father of Surgery. Based on the holistic description of Bhagandar found in Ayurvedic texts, this disease can be co-related with Fistula in ano. The Definition,

Etiology, Types, Pathogenesis as per Shatkriyakal (onset and progress), Purva roop (Prodromal features), Roop (Clinical manifestation), stage wise management and even the complications of Bhagandar has been perfectly explained by the learned Acharyas. Despite various advancement made in the surgical management of fistula in ano, Ayurvedic para-surgical procedure Ksharasutra remains more effective and acceptable scientific treatment, having less recurrence rate and minimum chances of incontinence than contemporary modern treatment alternatives. In this article, we tried to compile all the scattered description about Bhagandar available in various Ayurvedic texts and incorporated modern description too. Hope this article will enlighten the perspective of Bhagandar and will be useful to research scholars of Ayurved specially working in the field of fistula management.

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