

A REVIEW ARTICLE ON BHAGANDARA-FISTULA IN ANO^{*1}Dr. Fareeha Khanum, ²Dr. Shankar S.^{*1} A K* - 2nd Year PG Scholar, Dept. of Shalya Tantra, Shri Dharmasthala Manjunatheshwara Institute of Ayurveda & Hospital, Bengaluru, Karnataka.²Professor & HOD, Dept. of Shalya Tantra, Shri Dharmasthala Manjunatheshwara Institute of Ayurveda & Hospital, Bengaluru, Karnataka.***Corresponding Author: Dr. Fareeha Khanum**A K* - 2nd Year PG Scholar, Dept. of Shalya Tantra, Shri Dharmasthala Manjunatheshwara Institute of Ayurveda & Hospital, Bengaluru, Karnataka.DOI: <https://doi.org/10.5281/zenodo.17577770>**How to cite this Article:** ^{*}Dr. Fareeha Khanum, Dr. Shankar S. (2025). A Review Article on Bhagandara-Fistula In Ano. European Journal of Pharmaceutical and Medical Research, 12(11), 400–407.

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

Article Received on 16/10/2025

Article Revised on 06/11/2025

Article Published on 10/11/2025

ABSTRACT

Bhagandara is a common Ano-rectal condition, affecting the *Bhaga* (ano rectal or perianal region). Due to its delayed healing and recurrence nature, *Acharya Sushruta* has included it under *Ashtamahagada*. and as *Dushchikitsya vyadhi*. The word *Bhagandara* is composed of two words '*Bhaga*' and '*Darana*', means the one which causes *Darana*/splitting of *Bhaga* i.e, around the anus. It first occurs as a *Pidika* which later bursts open to form *Bhagandara*. It produces inconvenience by causing discomfort, discharge, and pain during daily activities. It can be correlated to Fistula in ano, an inflammatory response to anal gland infection resulting in the formation of an unhealthy track composed of unhealthy granulation tissue and fibrous tissue, having an external opening in the perianal skin and an internal opening in the anal canal or rectum. This article describes about introduction, etiology, pathophysiology, types, investigations, and treatment modalities for Fistula in Ano in Ayurveda and modern medical science.

KEYWORDS: Ano-rectal Fistula, *Bhagandara*, *Ashtamahagada*, Fistula in Ano.**INTRODUCTION**

Bhagandara is a common condition affecting Ano-rectal region. *Acharya Sushruta*, the father of surgery has included this disease under *Ashtamahagada*.^[1] Initially, in the *apakvavastha* (Asuppurative stage), it presents as *pidika* (boil) around the *guda* (anal region), *basti* (urinary bladder), and *bhaga* (pubic region, perineum, vaginal/genitals) and is called as *Bhagandara Pidaka*, and when it gets ripened, it bursts out to form *Bhagandara*.^[2] It can be correlated with Fistula in Ano in modern science, which is an inflammatory response to anal gland infection resulting in the formation of a tract composed of unhealthy granulation and fibrous tissue, having an external opening in the perianal skin and an internal opening in the anal canal or rectum.^[3] It is characterised by persistent pus discharge with intermittent pain and discomfort and may lead to several complications if not managed properly. As the ulcer is located in anal region, it is more prone for infection and persistent pus discharge hampers the daily routines.

The prevalence in men is 12.3 cases and in women is 5.6 cases per 100,000 populations. The male: female ratio is 1.8:1. The mean age of patients is 38.3 years.^[4] A similar study conducted in India reported that about 15-16% of all Ano-rectal disorders is constituted by Fistula-in-ano. Most common surgical procedures include fistulectomy, fistulotomy, fibrin glue, fibrin plug, seton placement, mucosal advancement flap, LIFT procedure, autologous fat grafting, VAAFT, PERFECT, OTSC treatment and stem cell treatment.^[5] These surgical procedures may cause complications like damage to the anal sphincter, anal incontinence, rectal prolapse, anal stenosis, delayed wound healing, fecal soiling and chances of recurrence.

In *Ayurveda* various surgical, para-surgical methods like *Kshara sutra* (alkaline thread) and medicinal treatment for *Bhagandara* have been explained.

AYURVEDIC VIEW

Bhagandara is a disease that exists since *Vedas*^[6] and

401

BHAGANDARA	DOSHA	FEATURES	DISCHARGE	APPEARANCE
<i>Parikshepi</i>	<i>Vata</i> & <i>Pitta</i>	Curved track is formed all around the Anal canal.	Pus & blood	Horse shoe shaped fistula
<i>Ruju</i>	<i>Vatta</i> & <i>Kapha</i>	Linear track associated with pain	Pus	Short and straight track.
<i>Arsho Bhagandara</i>	<i>Kapha</i> & <i>Pitta</i>	Located at the base of the <i>Arshas</i> . Burning pain and itching sensation	Continuous discharge	Fistula arises following infection of fissure bed with sentinel tag/haemorrhoids.

➤ According to *Madhava Nidana*^[17]
Madhavakara- 5 types as like *Sushruta Samhita*.

➤ According to *Sharangadhara Samhita*^[18]
Sharangadhara -8 types like *Vagbhata*.

➤ According to *Bhava Prakasha*
Bhava Mishra has described 5 types of *Bhagandara*,
 1) *Vatika*
 2) *Paittika*
 3) *Shlaishmika*
 4) *Sannipatika*
 5) *Shalyaja*

Table 1: Classification of *Bhagandara* as per different Acharyas.^[13,14,15,16,17,18,19]

Sl.No	Bhagandara	S.s	A.s	A.h	M.n	S.s	C.s	B.p	Y.r
1	<i>Shataponaka</i>	+	+	+	+	+	-	+	+
2	<i>Ushtragreeva</i>	+	+	+	+	+	-	+	+
3	<i>Parisravi</i>	+	+	+	+	+	-	+	+
4	<i>Shambukavartha</i>	+	+	+	+	+	-	+	+
5	<i>Unmargi</i>	+	+	+	+	+	-	+	+
6	<i>Parikshepi</i>	-	+	+	-	+	-	-	-
7	<i>Riju</i>	-	+	+	-	+	-	-	-
8	<i>Arsho</i>	-	+	+	-	+	-	-	-

PURVARUPA (PRODROMAL SYMPTOMS) OF BHAGANDARA^[20]

- ✚ Pain in *Kati-kapala* region.
- ✚ Itching in *Guda pradesha*.
- ✚ Burning sensation.
- ✚ Swelling in *Guda pradesha*.

These features get aggravated during riding/travelling and defecation.

RUPA (SIGNS & SYMPTOMS) OF BHAGANDARA^[21]

- ✚ Discharge from *vrana/tract* in perianal region.
- ✚ History of *Bhagandara pidika*, which bursts out many times, heals and reoccurs repeatedly.
- ✚ Associated with pain.

SAMPRAPTI (PATHOGENESIS) OF BHAGANDARA^[22]

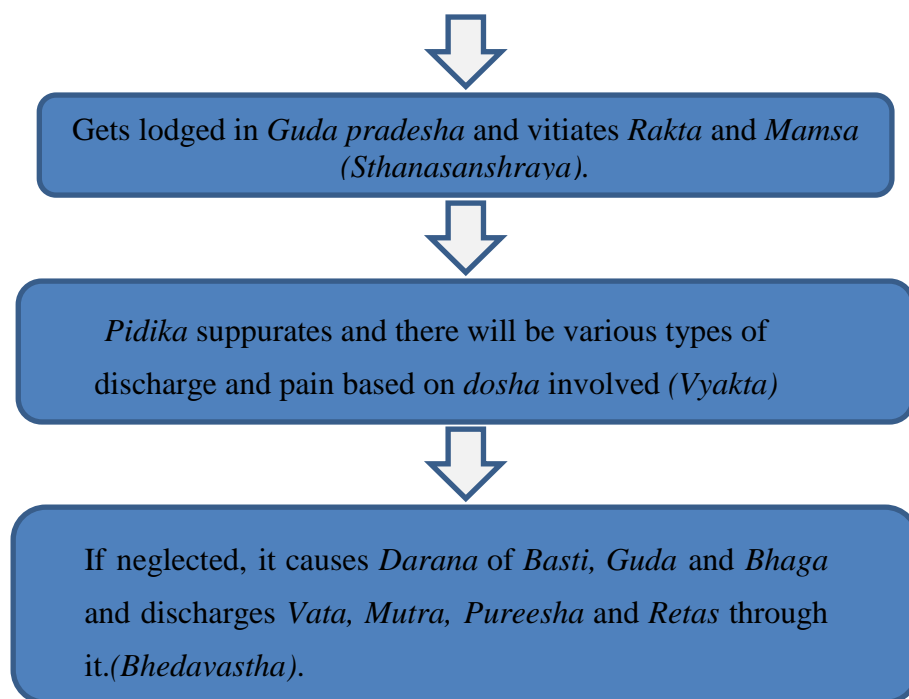
Dosha Chaya (as normal physiological response)



Continues exposure to *Nidanas* leads to further vitiation and aggravation of *Doshas* (*Prakopavastha*)



Intensively aggravated *doshas* migrate throughout the body (*Prasaravastha*).



SADHYASADHYATA BHAGANDARA

(PROGNOSIS)

OF

- ❖ According to Acharya Sushruta,^[23]
- ✓ All types - Krichra sadhya.
- ✓ Shambukavarta (Tridoshaja) and Unmargi (Agantuja)- Asadhya.
- ❖ According to Acharya Vagbhata,^[24]
- ✓ Nadi of Bhagandara, which crosses Pravahini vali and Sevani are Asadhya.
- ✓ Bhagandara which expels Apana vayu, Mutra, Purisha, Krimi and Shukra is Asadhya.

CHIKITSA (MANAGEMENT) OF BHAGANDARA

Treatment can be divided based on different stages,

1. Bhagandara pidika chikitsa (Apakvawastha).
2. Bhagandara chikitsa (Pakvawastha).

➤ Bhagandara pidika chikitsa/Apakvawastha chikitsa^[25]

It should be managed with initial Ekadashopakramas of Shasti-upakramas,

1. Apatarpana.
2. Alepa.
3. Parisheka.

a. Shataponaka Bhagandara^[27, 28]

Sl.No	Type of Incision	Shape of incision as per Ayurveda	Shape of Incision
1	Langalaka	Incision having two arms extending on either sides	T-shape
2	Ardha Langalaka	A similar incision with one arm	L-shape
3	Sarvatobhadara	Incision surrounding the anal canal on all four sides	Circular
4	Goteerthaka	Incision resembling the shape of cows Khur	Semi circular

4. Abhyanga.
5. Swedana.
6. Vimlapana.
7. Upanaha.
8. Pachana.
9. Visravana.
10. Snehana.
11. Vamana and virechana.

➤ **Bhagandara Pakvawastha chikitsa-** can be divided into 4 major measures,

- A. Preventive measures.
- B. Surgical measures.
- C. Para-surgical measures.
- D. Adjuvant measures.

A. PREVENTIVE MEASURES

Avoidance of Nidanas/causative factors.

B. SURGICAL PROCEDURES

- According to Acharya Sushruta- Chedana (excision) and Bhedana^[26] (incision) over the tract should be done.
- Acharya Sushruta and Vagbhata have described different types of incisions as per the tract:

b. Ushtragreeva^[29]

- *Shastra karma*: *Chedana*.
- *Kshara karma*.
- *Agnikarma* is contraindicated.
- Application of *Tila* treated with *ghrita*, *parisheka* with *ghrita* are indicated.

c. Parisraavi^[30]

- Incisions – *Chandra-ardha*, *Chandra-chakra*, *Suchimukha*, *Avaangmukha*, *Kharjurapatraka*.
- The tracts are excised followed by *Agni* and *Kshara Karma*.
- *Parisheka* of anorectal area with *Anutaila*.
- *Upanaha*.
- *Parisheka* with *Gomutra*
- *Kshara karma* (*Apamarga*) are indicated.

d. Shambookaavarta^[31] Asadhya.**e. Unmargi^[32]**

Asadhya, but tract should be excised along with *Asthi-aadi shalya*, followed by *Agnikarma* with *agnitapta Jamboushtha* or *Shalaka*, afterwards *Krimighna* treatment.

f. Parikshepi Bhagandara^[33]

Kshara Sutra is indicated by *Acharya Vagbhata*.

g. Ruju

No specific treatment is indicated, hence general line of treatment should be followed.

h. Arsho-Bhagandara^[33]

First *Arsha* should be managed then *Bhagandara*.

➤ According to Acharya Charaka^[11]

- a. *Virechana*- Purgation therapy.
- b. *Eshana*- Probing.
- c. *Chedana/Patana*- Excision of tract.
- d. *Margavishodana*- Cleansing of tract.
- e. *Dahana*- Cauterization.
- f. *Vranachikitsa*- Wound management.
- g. *Ksharasutra* therapy.

C. PARA-SURGICAL MANAGEMENT

Para- surgical measures can be employed alone or in combination with surgical procedure. It includes,

- *Raktamokshana* (Blood-letting).
- *Kshara Karma* (Chemical cauterization).
- *Agnikarma* (Thermal cautery).
- *Ksharasutra* (Alkaline thread).

➤ Importance of Ksharasutra therapy over surgical management^[34]

1. Minimal trauma and minimum tissue loss as compared to surgical removal.
2. Minimal bleeding.
3. Anesthesia- can be done under Local anaesthesia.
4. The patient can be ambulated soon after procedure.
5. Minimal hospital stay.

6. No incontinence/stricture.
7. Cost effective.
8. Scar-narrow and fine.
9. Low recurrence rate.

D. ADJUVANT MEASURES

Svedana, *parisheka*, *avagaha*, *taila purana*, *vranashodhana* & *vranaropana lepa*, *varti*, *shotha-hara drugs*, *guggulu*, *ghrita*, *arishta* and *deepana*, *pachana*, *mridu rechana*.

E. CLASSICAL PREPARATIONS

- *Narayan rasa*, *Navakarshika guggulu*, *Saptanga guggulu*, *Vidangadi leha* etc.
- Application of *Varti*- made up of *Kshara dravyas*. Due to its *Ksharana* property, it removes the slough & facilitates drainage. Eg: *Snuhi*, *Arka* along with *Daruharidra*.
Application of *Kalka*- made up of drugs like *Tila*, *Haritaki*, *Lodhra*, *Haridra*, *Vacha* etc.
- Application of *Kashaya*- for washing & also orally to reduce inflammation and pain.
Eg: *Triphala Kashaya*, *Kashaya* made up of *Khadira*, *Triphala*, *Guggulu*, *Vidanga*.
- Application of *Taila* (Medicated Oil): for controlling wound infection & promote healing.
Eg: *Vishyandana taila*, *Karaviradi taila*, *Nishadi taila*, *Saindhavadi taila*.

F. PATHYA^[35]

Shastika shali, *Rakta shali*, *Mudga*, *Patola*, *Shigru*, *Balamulaka*, *Tiktavarga*, *Tila taila*, *Sarshapa taila*, *Vilepi*, *Jangala mamsa* and *Madhu* etc.

G. APATHYA

- *Vyayama*- Excessive exercise.
- *Guru-ahara*- consuming heavy food
- *Maithuna*- Excess coitus.
- *Sahasakarma*
- *Krodha*- anger
- *Vegadharana*- Suppression of natural urges.
- *Ajirna*- Indigestion
- *Madya*- Excess alcohol intake.
- *Ati adhva/yana*- Excessive riding or driving.

MODERN VIEW**DEFINITION^[37]**

A fistula-in-ano, or anal fistula, is a chronic abnormal communication, usually lined to some degree by granulation tissue, which runs outwards from the anorectal lumen (the internal opening) to an external opening on the skin of the perineum or buttock (or rarely, in women, to the vagina).

ETIOLOGY^[38]

A. Non-specific- cryptoglandular infection and previous Ano-rectal abscess.

B. Specific factors- Different diseases and conditions e.g.- Tuberculosis, Crohn's disease, Ulcerative colitis, Lymphogranuloma venerum, Actinomycosis, Carcinoma

of rectum and anal canal, previous rectal or Gynaecological operations etc.

CLASSIFICATION OF FISTULA IN ANO

➤ **Milligan and Morgan** classification

1. High Anal Fistula
2. Low Anal Fistula

➤ **Park's** classification

1. Sub-Mucosal
2. Inter-Sphincteric
3. Supra-Sphincteric
4. Extra-Sphincteric.

CLINICAL ASSESSMENT^[37]

- A full medical (including obstetric, gastrointestinal, anal surgical and continence) history.
- Proctosigmoidoscopy- to gain information about sphincter strength and to exclude associated conditions.
- The key points to be determined are:
 - ✓ Site of the internal opening and external opening.
 - ✓ Course of the primary track and presence of secondary extensions.
 - ✓ Palpable induration between external opening and anal margin suggests a relatively superficial track, whereas supralelevator induration suggests a primary track above the levators or high in the roof of the ischiorectal fossa, or a high secondary extension.
 - ✓ Intersphincteric fistulae usually have an external opening close to the anal verge.
 - ✓ The site of the internal opening may be felt as a point of induration or seen as an enlarged papilla.
- **Goodsall's rule:** used to indicate the likely position of the internal opening according to the position of the external opening(s).
- **Dilute hydrogen peroxide**, instilled via the external opening, is a very useful way of demonstrating the site of the internal opening.
- **Endoanal ultrasound:** gives useful information about sphincter integrity.
- **Ultrasound** is useful to determine whether a fistula is relatively straightforward or not.
- **MRI** is acknowledged to be the 'gold standard' for fistula imaging but it is limited by availability and cost and the great advantage of MRI is its ability to demonstrate secondary extensions, which may be missed at surgery and which are the cause of persistence.
- **Fistulography and computed tomography (CT)** both have limitations but are useful techniques if an extrasphincteric fistula is suspected.

MANAGEMENT OF FISTULA-IN-ANO^[39]

1. **Fistulotomy**- Fistulotomy, or laying open of all those structures lying between the external and internal openings. It is therefore applied mainly to intersphincteric fistulae and trans-sphincteric fistulae involving less than 30% of the voluntary

musculatures.

2. **Fistulectomy**- This technique involves coring out of the fistula, usually by diathermy cautery, especially the level at which the track crosses the sphincters and the presence of secondary extensions.
3. **Seton**- (Latin: seta = bristle). Loose setons are tied such that there is no tension upon the encircled tissue. Materials have been used but the seton should be non-absorbable, non-degenerative and comfortable. Tight or cutting setons are placed with the intention of cutting through the enclosed muscle.
4. **LIFT (Ligation of intersphincteric fistulous track)**- LIFT was first described in 2006 for trans-sphincteric fistulae. The technique involves disconnection of the internal opening from the fistula tract at the level of the intersphincteric plane and removal of the residual infected glands without dividing any part of the sphincter complex. The tract is then ligated and divided, the internal part is removed and the external part of the track is curetted out and drained. Hence it is a sphincter-preserving procedure, thereby maintaining continence.
5. **Fibrin glue**- Fistulous track is closed by injection of fibrin glue, which results in formation of a clot within the fistula, helps to promote healing of the track. The content of solution is fibrinogen, thrombin and calcium.
6. **Anal fistula plug^[40]** It is a conical device made from porcine small intestine submucosa. The principle behind fixing the plug from inside of anus with suture is to stimulate native tissue remodeling to eventually close fistulous track.
7. **Endorectal advancement flap**- Used in high level fistula, high trans-sphincteric, supra-sphincteric and extra-sphincteric fistula. The principle of the technique is to cover the internal opening by internal sphincter and rectal mucosa.
8. **VAAFT^[41]** Video assisted anal fistula treatment is a novel, minimally invasive and sphincter-saving technique used to treat complex fistulas. Here, after visualizing fistulous tract with the help of fistuloscope & correct localization of the internal opening of fistula, endoscopic treatment and closure of the internal opening of fistula is done using a stapler or cutaneous-mucosal flap.

CONCLUSION

Bhagandara is difficult to cure and considered as *Ashta Mahagada* because of its tedious nature of healing. *Acharya Sushruta* has very well described *Bhagandara* along with its types and management in detail which can be correlated with the *Fistula-in-Ano*. Though most of the types of *Bhagandara* are *Krichrasadhya* (curable with difficulty) except *Shambukavarta (Tridoshaja)* and *Unmargi (Agantuja)*, which are *Asadhya* (incurable), Ayurveda offers multi-dimensional treatment approach along with the preventive and curative (Para-surgical and Surgical) measures.

REFERENCES

1. Shashtri A. D., Sushruta Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, sutra sthanam chapter 33,p-126.
2. Shashtri A.D., Sushruta Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, nidana sthanam chapter Su. Ni. 4/12,p-246.
3. Bailey & Love's Short Practice of Surgery, edited by Norman S. Williams, Christopher J.K. Bulstrode, P. Ronan O'Connell, Hodder Arnold publication, 25th Edition, Anus and Anal Canal, Fistula-in-ano, p-1264.
4. Sainio P. Fistula-in-ano in a defined population incidence and epidemiological aspects, Ann Chir Gynecol-1984; 73(4): 219-24.
5. Murtza Akhtar; Fistula in ano-An Overview, JIMSA, Jan-march 2012; 25.
6. Atharvaveda kand 8 sutra - 6/1.
7. Garuda Purana - A prose English Translation by Manmathanath Dutta Shastri Chaukhamba Sanskrit Series Office, 1968.
8. Vachaspatyam, Vamana Shivarava Ashtekruta Sanskrit Hindi Kosha.
9. Shashtri A.D., Sushruta Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, nidana sthanam chapter Su.Sha. Su. Ni. 4/4,p-244.
10. Hebbar, J. V. (2024, November 14). *Madhava Nidana Chapter 46 Bhagandara Nidanam*. Easy Ayurveda Hospital. <https://www.easyayurveda.com/2023/04/10/madhava-bhagandara-nidanam/>
11. Prof. Sharma P.V. in Caraka Samhita by maharsi agnivesh with English translation, Chaukhambha Orientalia Varanasi, vol II chikitsa sthanam, syavthu chikitsa chapter 12/96,p-203.
12. Dr. Tripathi Bramhananda in Astanghridyam, nirmala hindi commentary, chaukhambha Sanskrit sansthan Delhi, uttara sthana chapter 28/1-2,P-1092.
13. Shashtri A.D., Sushruta Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, nidana sthanam chapter Su. Ni. 4/31,p-245.
14. Shashtri A.D., Sushruta Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, chikitsa sthanam chapter S. Chi. 8/4,page no-45.
15. Indu sashilekha Sanskrit commentary on vrddha vagbhatas astanga sangraha- chaukhambha Sanskrit series -Varanasi ch -33 pg 798.
16. Acharya Vagbatha, Ashtaanga Hridayam: Aruna Dutta's, Sarvaanga Sundari Commentary And Hemadri's Ayurveda rasayana Commentary; Edited By Anna Moreswar Kunte, Chaukhamba Sanskrita Sansthana, Varanasi, Reprint 2018; Uttarasthana 28/ 5, Pg. 877.
17. Sri Vijay Raksita And Srikanta Dattas Vidyotini Tika, Madhukosha Sanskrit Commentatary Madhav Nidana P-2 Chaukhamba Sanskrit Sansthan Reprint 2004 Ch 46 P-135.
18. Srikanta Murthy KR.Sharagadhara Samhita. 2nd ed. Varanasi (India): Chaukhambha Orientalia; 1995. Prathama khand ch-7 / 81, p-38.
19. Tripathi Indradev. Yogaratnakara. Reprint ed. Varanasi (India): Krishnadas academy; 1998; P-629.
20. Dr. Tripathi Bhramanand in Astanghridyam, nirmala hindi commen-tary, chaukhambha Sanskrit sansthan Delhi, uttar sthan chapter 28/24, p- 1095.
21. Shashtri A.D., Sushrut Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, nidana sthanam chapter Su.Ni. 4/5-9, p-245.
22. Shashtri A.D., Sushrut Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, sutra sthanam chapter Su.Ni. 21/36, p-94.
23. Acharya Jadavjitrikamji Sushruta Samhita; Dalhana, Nibanda sangraha Commentary; Chowkhambha Surabharati Prakashana, Varanasi, 1st Edition; Reprint 2014; Nidanasthana 4/13, p-282.
24. Laghu Vāgbhaṭa, Aṣṭāṅg Hṛdya, edited with Vidhyotini Tika by Atrideva Guptā, Chaukhambha Prakashan 2008 Edition Varanasi Uttar Tantra-28, Verse no-21, p-752.
25. Acharya Jadavjitrikamji Sushruta Samhita; Dalhana, Nibandasangraha Commentary; Chowkhambha Surabharati Prakashana, Varanasi, 1st Edition; Reprint 2014; Chikitsasthana 8/4, p- 439.
26. Shashtri A.D., Sushrut Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, chiktsha sthanam chapter Su. Chi. 8/5-7, p-45.
27. Vṛudha Suśruta, Suśruta Saṃhitā, edited with Āyurvedatva sandīpikā by Dr. Ambikā dutta sāstrī Chaukhambha Sanskrit Sansthan, 2010 Edition Varanasi Vol-1 Chikitsāsthāna-8, verse no-9-10, p-58.
28. Laghu Vāgbhaṭa, Aṣṭāṅg Hṛdya, edited with Vidhyotini Tika by Atrideva Gupta, Chaukhambha Prakashan 2008 Edition Varanasi Uttar Tantra-28, Verse no-30-31, p-753.
29. Vṛdha Suśruta, Suśruta Saṃhitā, edited with Āyurveda tatva sandīpikā by Dr. Ambikā dutta sāstrī Chaukhambha Sanskrit Sansthan, 2010 Edition Varanasi Vol-1 Chikitsāsthāna- 8, verse no-20-22, p-59.
30. Vṛudha Suśruta, Suśruta Saṃhitā, edited with Āyurveda tatva sandīpikā by Dr. Ambikā dutta sāstrī, Chaukhambha Sanskrit Sansthan 2010 Edition, Varanasi, Vol-1 Chikitsāsthāna- 8, verse no-23-27, p-59.
31. Vṛudha Suśruta, Suśruta Saṃhitā, edited with Āyurveda tatva sandīpikā by Dr. Ambikā dutta sāstrī, Chaukhambha Sanskrit Sansthan 2010 Edition, Varanasi Vol-1 Chikitsāsthāna- 8, verse no-33, p-60.
32. Vṛudha Suśruta, Suśruta Saṃhitā, edited with Āyurveda tatva sandīpikā by Dr. Ambikā dutta sāstrī Chaukhambha Sanskrit Sansthan 2010 Edition, Varanasi Vol-1 Chikitsāsthāna- 8, verse no-32, 60.
33. Laghu Vāgbhaṭa, Aṣṭāṅg Hṛdya, edited with Vidhyotini Tika by Atrideva Gupta, Chaukhambha Prakashan 2008 Edition Varanasi Uttar Tantra-28, Verse no-27(28): 753.

34. P.J. Deshpandey, Treatment of fistula in ano by new technique, American journal of proctology, February 1973.
35. Bhaishjya Ratnavali, Bhagandara chikitsa/45.in: Sen G.Varanasi, Chaukhamba Prakashan, 2007; 872.
36. Shashtri A.D., Sushruta Samhita in Ayurveda Tatva Sandipika, chaukhamba Sanskrit sansthan, chiktsha sthanam chapter Su. Chi. 8/54: 48.
37. Williams, N. S., O'Connell, P. R., & McCaskie, A. W. (2017). *Bailey & Love's short practice of surgery*, 27th Edition, Anus and Anal Canal, Fistula-in-ano, 1363-1365.
38. Bailey & Love's Short Practice of Surgery, edited by Norman S.Williams distributors, 5th edition, reprint 1999; chapter 7: 181.
39. Williams, N. S., O'Connell, P. R., & McCaskie, A. W. (2017). *Bailey & Love's short practice of surgery*, 27th Edition, Anus and Anal Canal, Fistula-in-ano, 1365-1367.
40. 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>.
41. Das, M. (2021, February 20). VAAFT surgery performed at Amrita - Amrita Vishwa Vidyapeetham. *Amrita Vishwa Vidyapeetham*. <https://www.amrita.edu/news/vaaft-surgery-performed-at-amrita/>.