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GOTHEERTHAKA CHEDANA FOLLOWED BY *PRATISARANEEYA KSHARA KARMA* AND *KSHARASUTRA* LIGATION IN THE MANAGEMENT OF *SHATAPONAKA BHAGANDARA* – A SINGLE CASE REPORT

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ABSTRACT

Sushruta extensively delineates the *Bhagandara* disease, classifying it among the *Ashtamahagada*. Within the five types of *Bhagandara, Sambukavarta* is deemed *Asadhya,* while the remaining four are considered *Kruchrasadhya*. *Bhagandara* manifests as a canal characterized by unhealthy granulation tissue and pus discharge, akin to Fistula-in-Ano. Specifically, *Shataponaka (Vataja) Bhagandara* is elucidated by Sushruta, detailing its *Nidana*, *Samprapthi*, *Purvarupa*, and *Rupa*. *Sushruta* outlines a *Shastra Karma* procedure with four distinctive incisions to prevent complications, a methodology that aligns with contemporary fistulotomy and fistulectomy procedures for Fistula-in-Ano. Despite the prevalent use of *Ksharasutra* in treating *Bhagandara, Shastrakarma* remains pivotal in managing *Shataponaka Bhagandara.* Conditions such as fistula-in-ano with multiple openings, tubercular fistula-in-ano, hidradenitis suppurativa, Crohn's disease with fistula-in-ano, uncontrolled diabetic patients with multiple fistula-in-ano, and perianal actinomycosis fall within the category of *Shataponaka Bhagandara.* To expedite healing and mitigate the need for multiple incisions, these incisions can be strategically employed in multiple tracks. In this case report, a patient of fistula- in-ano having 3 external opening on left side of anal canal was treated with *Gotheerthaka chedana* followed by *Pratisaraneeya kshara karma* and *Ksharasutra* ligation for the remaining part of

tract. Regular dressing was done with *jatyadi taila* for the *Vrana* (wound) resulted by *Gotheerthaka chedana* and old *ksharasutr*a was changed with a new one by rail-road method on every week for the remaining part of fistulous tract. The unit cutting time (UCT) was measured and noted at every week. This case was cured completely within 7 weeks. Hence study concluded that in fistula-in-ano with multiple openings the incisions told by *Sushruta* can be employed along with *Ksharasutra* treatment to expedite healing and to avoid multiple incision / Multiple *Ksharasutra* ligation.

KEYWORDS: *Shataponaka bhagandara, Gotheerthaka Chedana, Kshara sutra,* fistula-in-ano with multiple openings.

INTRODUCTION

In *Ayurvedic* texts, there is detailed information about "*Bhagandara*." The term "*Bhaga*" in its literary sense refers to the structures around the *Guda* (anus), encompassing the *Yoni* and *Basti*, while "*Darana*" signifies a tear on the surface leading to pain. *Bhagandara*, commonly known as fistula-in-ano, is identified as one of the most prevalent ano-rectal diseases in Ayurveda. *Sushruta* has comprehensively elucidated various aspects of *Bhagandara*, including its *Nidana* (Aetiology), *Poorvarupa* (Prodromal features), *Samprapti* (Pathogenesis), *Bheda* (Types), *Lakhshana* (Clinical features), *Sadhyaasadhyata* (Prognosis), *Upadrava* (Complications), *Pathya-apathya* (Salutary and unsalutary), and *Chikitsa* (Treatment) in his treatise.

Bhagandara is classified based on Dosha involvement into five types[1]:

1. **Shataponaka (Vataja):** *Shata* means Hundred and *Ponaka* means Opening. This condition is characterized by multiple opening with *Pidaka*s (boil) presenting as Fistulas and rectal sinuses that resembling a sieve (*Chalanika*).
2. ***Ustragreeva (Pittaja)*:** word denotes the neck of a camel, this type is distinguished by its red, thin, and elevated appearance, reminiscent of a camel's neck.
3. ***Parisravi (Kaphaja):*** Marked by continuous discharge from the wound, where *Vata* carries vitiated *Kapha* to the *Guda*.
4. ***Sambukavarta (Vata, Pitta, Kapha)*:** The term "Ridges of a Conchshell" indicates a curved and deep track. *Pidaka*, resembling a large and elevated boil, is of the size of the tip of the great toe (*Padangushta Pramana*).
5. ***Unmargi (Agantuja)*:** Resulting from trauma without *Dosha* involvement, this type is caused by the presence of *Asthi shalya* (bony foreign body) or any foreign object ingested

with food, reaching the *Guda* and causing trauma, leading to the development of *Bhagandara.*

Bhagandara Nadi is classified based on its opening into two categories:

1. ***Arvachina:*** This term signifies an internal blind opening (*Antarmukhi*), implying that the opening of the *Bhagandara Nadi* is not visible externally.
2. ***Parachina*:** This term denotes an external blind opening (*Bahirmukhi),* suggesting that the opening of the *Bhagandara Nadi* is visible externally.

***Shataponaka Bhagandara*:** *Nidana* are indulgence in unsalutary diets and habits, Due to which *Vata dosha* gets *Prakupita, Sannivrutta* (condensed) and gets *Sthribhutha* (localized) around *Guda* in one or two *Angulas*, involves the *Mamsa, Shonitha* gives rise to specific type of *Aruna Varna* (Black color) *Pidaka* and *Toda* (pain like pin and needles prick). If left untreated, suppuration occurs, leading to an anorectal abscess in close proximity to the *Mutrashaya* (urinary bladder). The *Vrana* (wound) is consistently *Praklinna* (moist). *Shataponakavad Anumukhashchidrairaapooryatai*, describing the condition as being filled with multiple small holes akin to a sieve, from which copious, clear, or foamy discharge continuously flows. The affected area experiences *Taadya* (whipping), *Bhidya* (tearing), *Chidya* (biting), and *Soochi* (pricking) pain. Additionally, there is *Avadeerya* (splitting) sensation of the anus. Neglecting this condition may result in the discharge of flatus, urine, faeces, and semen from these openings, leading to the *Shataponaka Bhagandara.*[2]

General management of *Bhagandara*[3] includes-

1. **In *Apakwa avastha*** *-Apatharpana* (fasting), *Alepa* (application of paste), *Parisheka* (spraying), *Abhyanga* (anointing), *Swedana* (sudation), *Vimlapana* (gentle massage by the fingers), *Upanaha* (application of poultice), *Pachana* (induction of suppuration), *Visravana* (bloodletting), *Sneha paana* (internal oleation), *Vamana* (emesis) and *Virechana* (purgation) are employed according to the need.
2. **In *Pakwa avastha*** - *Shastra karma* (excision), *Kshara karma* and *Agnikarma* are the treatment modalities followed.

While dealing about the Treatment of *Shataponaka Bhagandara Acharya Sushruta* mentions different incisions[4] used to treat the same.

Which are as follows

1. ***Langalaka****:* This incision involves two arms extending on either side, forming a T-shaped incision. The description is "*Dwabhyam Samabhyam Paarshvabhyam*."
2. ***Ardha Langalaka***: Similar to *Langalaka* but with one arm, creating an L-shaped incision. The description is "*Hrusvamekataram*."
3. ***Sarvatobhadraka*:** This incision surrounds the anal canal on all four sides, excluding the perineal raphe. It resembles a circular-shaped incision, described as "*Mandalangkushasadrusha*."
4. ***Gotheerthaka***: This incision is likened to the pattern of urine on the ground when a cow passes urine during walking. It results in a semicircular or "S"- or Eliptical incision and is described as "*Gomutragathisadrusha*."

In contemporary science it is compared to fistula- in- ano. The condition presents a range of symptoms, including pain, swelling, discharge, itching, and social embarrassment. In contemporary surgical practices, various modalities such as fistulectomy, fistulotomy, fibrin glue application, fistula plug insertion, video-assisted anal fistula treatment (VAAFT), and ligation of the inter-sphincteric fistula tract (LIFT) are employed, each carrying its own set of advantages and disadvantages.[5] In *Ayurveda*, explicit instructions emphasize the treatment of *bhagandhara* through *Chedhana* (Excision), *Ksharakarma* (application of alkali), or *Ksharasutra* (medicated thread).

In this case report, a patient of fistula- in-ano having 3 external opening on left side of anal canal was treated with *Gotheerthaka chedana* followed by *Pratisaraneeya kshara karma* and *Ksharasutra* ligation for the remaining part of tract.

PATIENT INFORMATION

CHIEF COMPLAINTS

Patient Complaints of swelling, pus discharge and pain in perianal region since 5 years.

HISTORY OF PRESENT ILLNESS

A 26-year-old male patient, with no history of diabetes or hypertension, was in good health about five years ago. Subsequently, he noticed a small swelling in the left side of perianal region, accompanied by pain and discomfort. Despite the initial neglect, the swelling eventually burst spontaneously, providing temporary relief from pain due to pus discharge. The persistent pus discharge worsened with non-vegetarian food intake. Seeking relief, the

patient sought allopathic treatment at a private clinic, which provided temporary relief from pain and pus discharge. However, the symptoms recurred intermittently as the number of perianal swellings increased. Faced with worsening symptoms, the patient sought further management at SJGAU Hospital, Shalyatantra OPD at Bengaluru.

PAST HISTORY

Not a K/C/O HTN, DM, TB, Thyroid disorder.

PERSONAL HISTORY

Patient is a non-vegetarian with moderate appetite, disturbed sleep, and having frequency of micturition 5-6 per day and having history of constipation.

SURGICAL HISTORY

Not underwent any surgery.

GENERAL EXAMINATION

Patient had, Blood pressure – 130/80 mmHg, Pulse rate – 80bpm, Respiratory rate – 18 cpm, Pallor, icterus and lymph node enlargement are absent.

LOCAL EXAMINATION

IN LITHOTOMY POSITION

INSPECTION: (Figure-1)

Multiple External opening found at 3 O'clock- 2 O'clock position in perianal region approximately 8cm, 5cm, 3cm away from the anal verge with pus discharge from external openings.

Fibrosis/ scarring noted at 1 O'clock position approximately 2cm away from anal verge.

PALPATION

Tenderness on touch with indurations was felt around external opening.

INVESTIGATIONS

Laboratory investigations were as follows. Haemoglobin -15.3%, ESR -20mm/hr,

CT – 5 mins 10 sec, BT – 2 mins 25 sec.

RBS 110 gm/dl. And serological investigations like HIV and HBsAG were negative.

Chest X-ray PA view – normal

Mantoux test was Negative

Colonoscopy shows- Normal study

TRUS REPORT: (Figure- 2)

- There is evidence of Fistulous communication tract noted from cutaneous surface to left anterolateral aspect of the anal canal.
- It is of trans-sphincteric type of fistula.
- There are 3-4 external openings noted along 1-2 O'clock position. The Openings are merged along the subcutaneous plane to form single tract.
- The tract is passing posteriorly and medially into anal canal.
- There are internal opening at mid anal canal level at 6 O'clock position at a depth of 18mm from anal opening.
- Length of the tract 5.0 cms.
- Inflammatory oedematous thickening of surrounding perianal tissue is noted.
- Entire fistulous tract is inflamed with necrotic collection within the track.

METHODLOGY

Pre- operative

The patient received instructions to abstain from any oral intake starting from 10:30 pm on the day preceding the surgery. A written informed consent was obtained from the patient. The local area of the patient was prepared for the procedure. In the early morning on the day of the surgery, a proctoclysis enema was administered. An intramuscular injection of 0.5cc of Tetanus Toxoid (T.T.) was given, and a sensitivity test for intradermal injection Xylocaine 2% was conducted. These preparations were undertaken to ensure the patient's readiness and safety for the upcoming surgical procedure.

Operative

In the operating room, the patient was positioned in lithotomy, and the peri-anal area was prepared by painting it with betadine solution, followed by sterile draping. Inj. xylocaine was administered for local anaesthesia, infiltrating around the anus and the fistulous tract. A four-finger anal dilatation was performed.

To assess the patency of the tract, betadine solution was pushed through the external opening. Following the confirmation of a patent tract, a probe was introduced through the external opening located at the greatest distance from the anal verge. The probe was advanced through the tract, reaching the internal opening, and then taken out from the anal canal (Figure-3).

Subsequently, an elliptical incision was made to open the fistulous tract, encompassing the other two external openings. This incision extended until the external sphincter was reached, ensuring careful attention to avoid cutting the external sphincter fibres (approximately 5cm of tract was laid open from external opening).

Following this procedure, *Pratisaraneeya Kshara* application was performed to laid open fistulous tract. (Figure -4). After one minute, the exposed fistulous tract was cleansed with *nimbu swarasa* (lemon juice). Subsequently, a primary thread was placed to address the remaining portion of the fistulous tract. The procedure went uneventful. Hemostasis was achieved, and the necessary dressing was applied. The patient was then transferred to the ward with stable vital signs.

Post-operative

The wound was cleaned and dressed as part of postoperative care. The patient was prescribed oral antibiotics and analgesics, to be taken twice a day, for a duration of 5 days. This medication regimen aims to prevent infection and manage pain during the initial stages of the healing process. It is a standard postoperative protocol to promote optimal recovery and reduce the risk of complications.

In addition to the standard postoperative care, adjuvant medications were prescribed, including *Triphala guggulu* at a dosage of 500mg twice a day. *Avipattikara choorna* was recommended with a teaspoon along with warm water at bedtime. To further aid in the healing process, the patient was advised to take Sitzbath or *Avagaha sweda* (using warm water infused with *Panchavalkala* decoction) two times a day for 10-15 minutes. These additional measures are intended to provide holistic support, alleviate discomfort, and enhance the overall recovery of the patient.

The patient was advised to follow a fibre-rich diet and increase water intake to prevent constipation. Strictly advised to avoid the consumption of non-vegetarian, spicy, oily foods, junk foods, and alcohol. Additionally, the patient was advised to avoid prolonged sitting and traveling until the complete healing of the fistulous tract. These lifestyle modifications aim to support the healing process and minimize the risk of complications during the recovery period.

RESULT AND DISCUSSION

On 2nd day of post-operative, the primary thread was in situ, wound was healthy, mild pus discharge was present (Figure-5). Cleaning and dressing of the wound with *jatyadi taila* was done daily. On 7th post-operative day, the wound was healthy, no discharge was present and the primary thread was changed with *apamarga kshara* sutra after applying 2% xylocaine jelly by rail road method. By the 14th post-operative day, the partial fistulotomy wound had completely healed. Subsequently, the *Kshara sutra* was changed at weekly intervals with a new *Kshara sutra*, applying 2% xylocaine jelly using the railroad technique. This process continued until the complete cut-through and healing of the fistulous tract were achieved.

The length of *ksharasutra* thread was recorded to assess progress of cutting and healing on every change. Total 7 weeks were required for complete cutting and healing of fistulous tract. There was healed scar of partial fistulotomy wound and *ksharasutra* applied tract (Figure-6). The unit cutting time (UCT) of fistulous tract was 10 days per cm.

In the management of *Shataponaka Bhagandara*, *Sushruta* advocated various incisions for optimal results. This approach may stem from the observation that the manifestation of the *bhagandara nadi* (fistulous tract) does not consistently follow a similar pattern. This suggests that *Sushruta's* recommendation of different types of incisions serves as a guiding light to *Vaidyas*, emphasizing the importance of tailoring the incision based on the presentation of the *bhagandara nadi* and the individualized strategy of the practitioner. This approach aims to expedite healing, reduce the necessity for multiple incisions, and minimize the risk of additional scarring and recurrence.

In this specific case mentioned, the decision was made to limit the incision without cutting the external sphincter. This cautious approach was chosen due to the potential risk of faecal incontinence associated with cutting the external sphincter.

In this case, *Kshara karma* was performed to eliminate the unhealthy granulation tissue present in the laid-open fistulous tract. The remaining portion of the tract was then treated through *Apamarga Kshara sutra* ligation.

Probable Mode of action

The *Kshara* applied to the thread exhibits anti-inflammatory and antimicrobial properties. The alkaline nature of the *Kshara* serves to cauterize dead tissue, aiding in cutting and also

promotes healing. The alkaline pH of the *Ksharasutra* effectively controls local infections, which thereby contributing to the overall healing process.

The cutting action is attributed to the local effects of the *Kshara, Snuhi,* and the mechanical pressure exerted by the tightly knotted *Ksharasutra* in the initial 1-2 days of application, followed by subsequent healing over the next 5-6 days. Turmeric powder (Curcuma longa) mitigates the reaction of caustics and facilitating in wound-healing process.

The *Ksharasutra,* incorporates the combined effects of *Apamarga kshara, Snuhi ksheera,* and *Haridra*, regarded as a unique drug formulation for both cutting and healing the fistulous tract.

The *Panchavalkala* decoction possesses both cleaning and wound-healing properties, effectively maintaining the wound's cleanliness and facilitating the healing process. The components of *Jatyadi taila* has cleaning, healing, antimicrobial, and anti-inflammatory properties, collectively aiding in the overall wound healing. Additionally, the *Avipattikara choorna* plays a role in maintaining regular bowel movements.

FOLLOW UP

Follow-up assessments were conducted at regular intervals of 15 days for a duration of two months, during which no recurrence of the condition was observed.

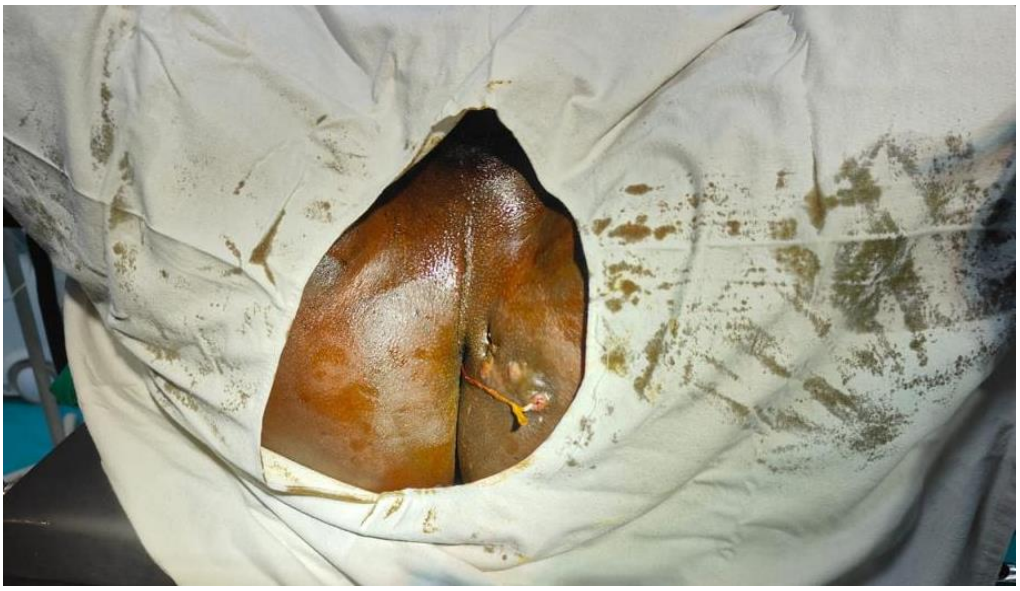
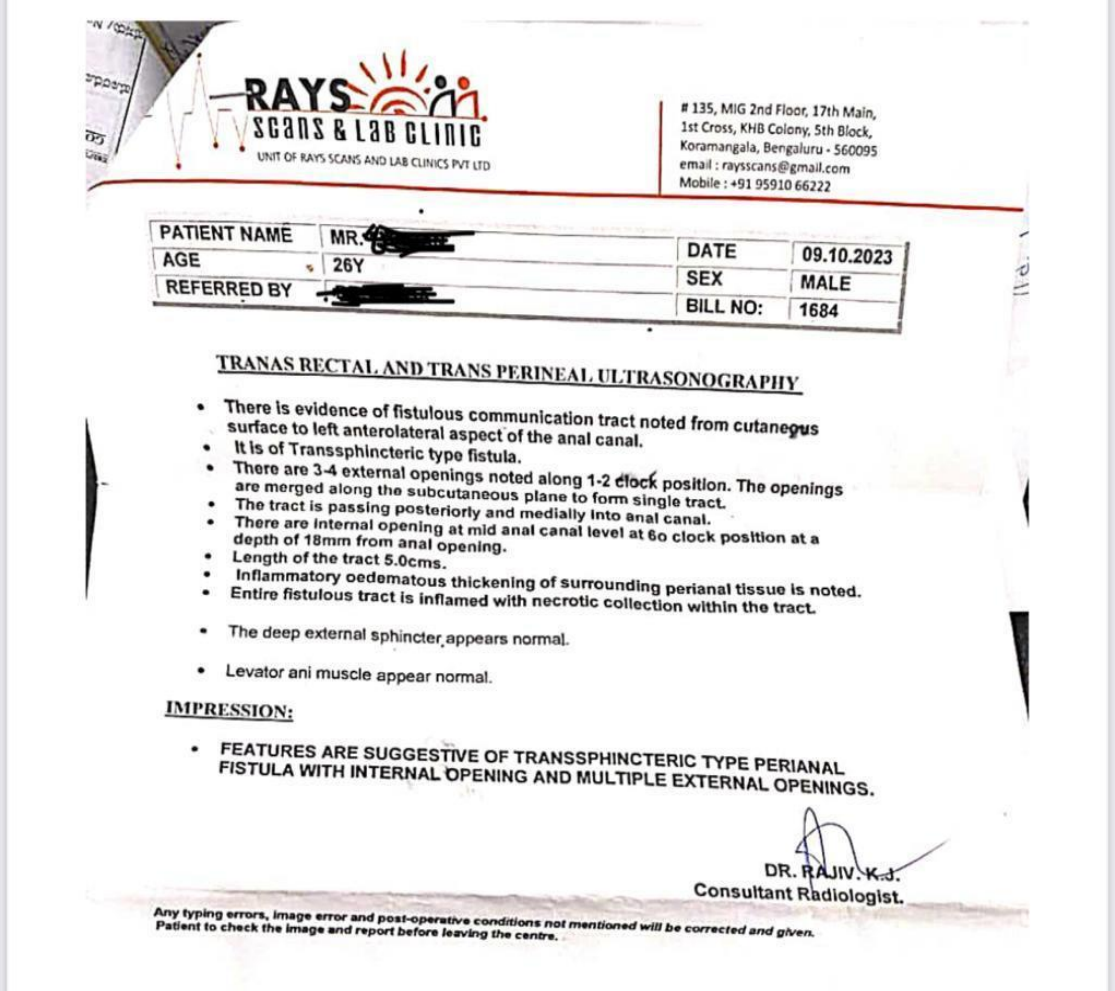


Figure 1: Showing Inspection Findings.



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PATIENT NAME	MR. [redacted]	DATE	09.10.2023
AGE	26Y	SEX	MALE
REFERRED BY	[redacted]	BILL NO:	1684

TRANAS RECTAL AND TRANS PERINEAL ULTRASONOGRAPHY

- There is evidence of fistulous communication tract noted from cutaneous surface to left anterolateral aspect of the anal canal.
- It is of Transsphincteric type fistula.
- There are 3-4 external openings noted along 1-2 clock position. The openings are merged along the subcutaneous plane to form single tract.
- The tract is passing posteriorly and medially into anal canal.
- There are internal opening at mid anal canal level at 6o clock position at a depth of 18mm from anal opening.
- Length of the tract 5.0cms.
- Inflammatory oedematous thickening of surrounding perianal tissue is noted.
- Entire fistulous tract is inflamed with necrotic collection within the tract.
- The deep external sphincter appears normal.
- Levator ani muscle appear normal.

IMPRESSION:

- FEATURES ARE SUGGESTIVE OF TRANSSPHINCTERIC TYPE PERIANAL FISTULA WITH INTERNAL OPENING AND MULTIPLE EXTERNAL OPENINGS.

DR. RAJIV. K.d.
Consultant Radiologist.

Any typing errors, image error and post-operative conditions not mentioned will be corrected and given. Patient to check the image and report before leaving the centre.

Figure 2: Showing TRUS Report.

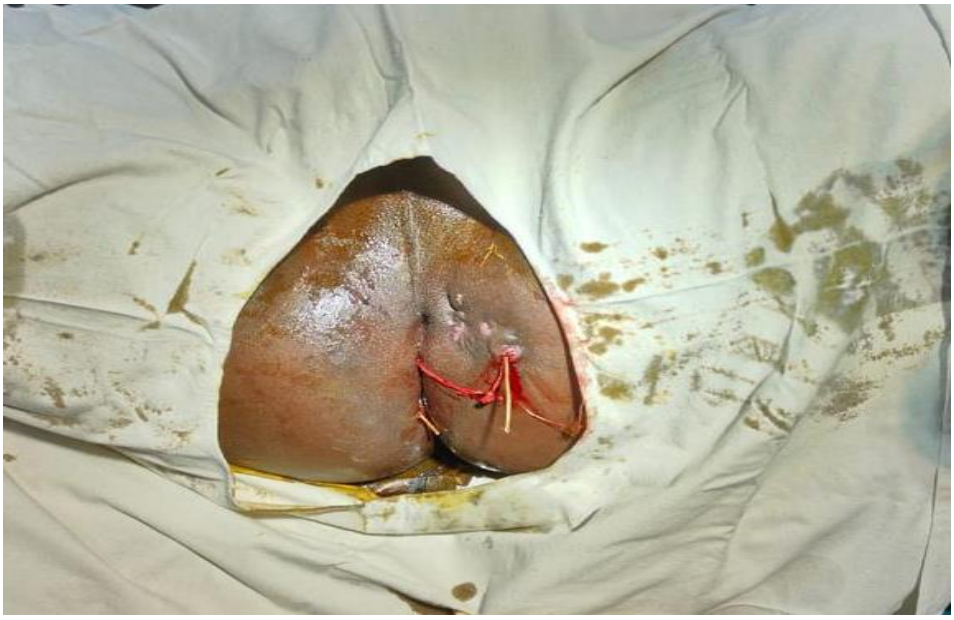

Figure 3: Procedure of Probing Done.

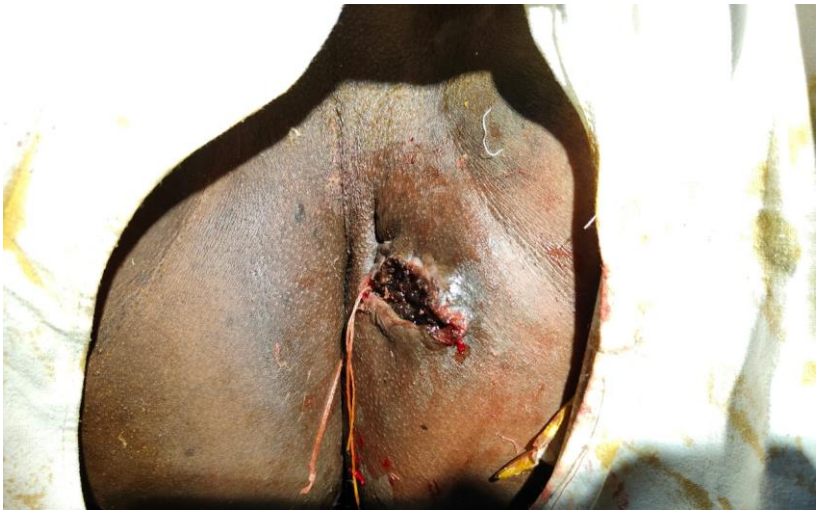

Figure 4: Showing After Pratisaraneeya Kshara Application to Laid Open Fistulous Tract.

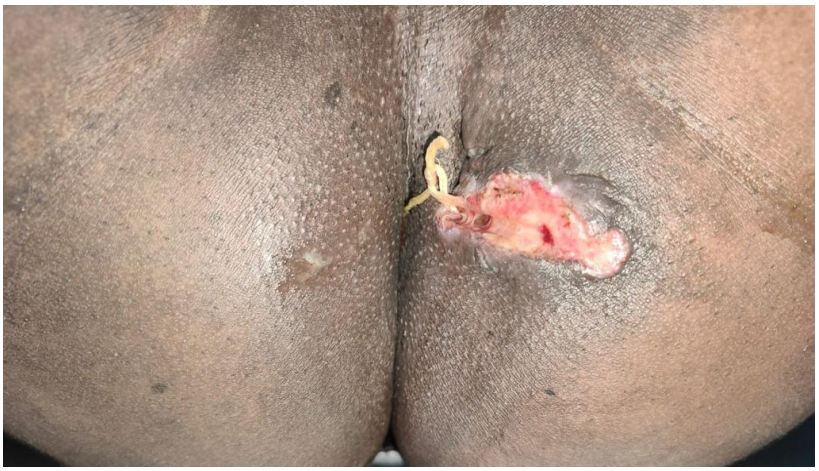

Figure 5: Showing Post-Operative Day 2.

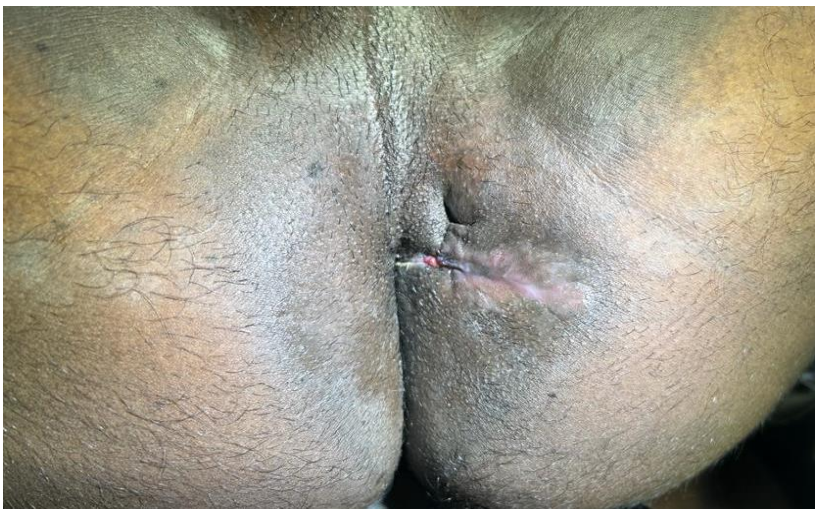

Figure 6: Showing Healed Scar of Partial Fistulotomy Wound and Ksharasutra Applied Tract.

CONCLUSION

When dealing with multiple forms of tracks in *Shataponaka Bhagandara*, instead of opting for *Ksharasutra* procedures, an incision specific to *Shataponaka Bhagandara* is performed. This approach helps in halting the ramifications of the tracks and promotes swift healing, facilitating a quicker recovery for the patient from the disease.

All the mentioned incisions are beneficial in the context of multiple tracks. The *Vaidya* (physician) should judiciously choose the appropriate incision based on the patient's condition. This ensures a rapid *Shodhana* (cleaning) of the tracks. This comprehensive approach promotes fast healing of the wound while minimizing the risk of unnecessary injury to healthy tissues so that, outcome will be aesthetically favourable, with the potential to avoid noticeably long scars. Additionally, there is an anticipation of tension dispersion on the scar, aiming to minimize scar length and enhance overall cosmetic results.

The decision on the type of incision to be performed is determined by *Vaidya's* experience, taking into account the course and presentation of the *bhagandara nadi*. The primary aim is to ensure effective treatment while minimizing potential adverse effects, including incontinence. Given that this is a single case study, it necessitates a larger number of cases to draw a more robust and concrete conclusion. Increasing the sample size will enhance the reliability and generalizability of the findings.

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