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Ayurvedic Approach to Complex Fistula in Ano: Role of Ksharasutra - A Case Study

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Abstract: ***Introduction: Fistula in ano, or Bhagandara as described in Ayurveda, is a chronic and recurrent anorectal condition, often presenting with pus discharge, pain, and discomfort. Complex fistulas, involving significant portions of the anal sphincter or multiple tracts, pose a challenge to both surgical and conservative management. Ksharasutra therapy, a minimally invasive Ayurvedic parasurgical technique, has shown promising results, especially in complex cases.***
Methods: A 20-year-old male patient presented at the OPD of Mahadev Medical and General Health Care, Kuchera, Nagaur, with complaints indicative of a complex fistula in ano. After clinical evaluation and diagnosis, Ksharasutra therapy was initiated. The procedure involved the insertion of a medicated thread (Ksharasutra) into the fistulous tract. The thread was regularly changed and gradually tightened to promote simultaneous cutting, curettage, and healing of the tract. Follow-ups were conducted weekly to assess tract healing, evaluate for complications, and ensure patient compliance.
Results: Over the course of treatment, progressive healing of the fistulous tract was observed without any major complications or signs of recurrence. The patient tolerated the therapy well, and no sphincter damage or incontinence was reported. Complete healing was achieved with satisfactory cosmetic and functional outcomes.
Discussion: This case highlights the effectiveness of Ksharasutra therapy in managing complex fistula in ano. Its ability to gradually cut and heal the tract while preserving sphincter integrity makes it a valuable alternative to conventional surgical approaches. With proper case selection and regular follow-up, Ksharasutra offers a safe, cost-effective, and minimally invasive treatment option for complex anal fistulas.
Keywords: Bhagandara, Ksharasutra, Fistula-in-Ano, Ayurveda.

I. INTRODUCTION

Fistula in ano (*Bhagandara* in *Ayurveda*) is a chronic abnormal tract that forms between the anal canal and the perianal skin, often due to infection and abscess formation in the anal glands. In *Ayurveda*, this condition is well-documented and effectively managed using a unique parasurgical procedure called *Ksharasutra* therapy.

In Ayurveda, *Bhagandara* is described as one of the *Ashta Mahagada* (eight major diseases) due to its chronicity, complexity, and high recurrence rate. It is characterized by a track or passage formed near the anus, discharging pus or blood, associated with pain, swelling, and itching.

Fistula-in-ano. This is a track lined by granulation tissue which opens deeply in the anal canal or rectum and superficially on the skin around the anus. Sometimes the track does not open into the anal canal or rectum, when it should better be called a 'sinus'. Mostly these fistulae develop from anorectal abscess, which burst spontaneously or was incised inadequately. An anal fistula may occur with or without symptoms. A history of intermittent swelling with pain, discomfort and discharge in the perianal region can often be obtained. Inspection and palpation usually delineate the course and nature of the fistula. After the discovery of an external opening, it is possible to palpate the fibrous cord subcutaneously leading toward the anal canal. This is better palpated bidigitally - index finger inside the lumen of the anal canal and the thumb superficially around the anus. All sides should be palpated for the presence of multiple fistulae or sinuses. The most important part in rectal examination is to feel the ano-rectal sling and to find out whether the internal opening is above or below that sling. When the internal opening is above the ano-rectal sling the fistula is said to be a 'high fistula' and if the inner opening is below the ano-rectal sling, the fistula is said to be a 'low fistula'. While a low fistula can be laid open without fear of incontinence, treatment of a high fistula is very difficult and calls for expert hands in this specialty.

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Proctoscopy may indicate the inner opening. Sigmoidoscopy is mandatory to rule out 'proximal disease', be it inflammatory, neoplastic, or otherwise. In every instance, a barium enema should be performed. Scrapings from the fistula should be examined bacteriologically. In case of recurrent and multiple fistulae, one should always try to eliminate tuberculosis, Crohn's disease, ulcerative colitis, lymphogranuloma inguinale, and colloid carcinoma of the rectum. A high index of suspicion is necessary in this respect.[i]

The fistula Classification of Standard (Milligan Morgan, 1934; Goligher 1975) (i) Subcutaneous commonest (ii) Low anal-common (iii) Submucous (iv) High anal (v) Pelvi rectal. And the Park's classification (1976) of the fistula in ano are (i) Intersphincteric-commonest 70% (ii) Transphincteric 25% (iii) Supralevator/suprasphincteric 4% (iv) Extrasphincteric 1%.[ii]

Ayurveda, an ancient system of medicine, offers Kshara as a therapeutic approach to treating various conditions, including Fistula-in-Ano. Kshara is noted for its ability to destroy vitiated tissue through mechanisms similar to excision, cutting, and scraping, while also balancing the three Dosha (biological energies). This therapeutic potential is well recognized in Ayurvedic practices.

Acharya Sushruta, a renowned ancient Ayurvedic surgeon, has particularly advocated for the use of *Ksharasutra* for cutting open *Nadivrana* (sinus tracts). In this context, a case study is presented where Ksharasutra was employed to treat a patient suffering from Fistula-in-Ano. The procedure began with the preparation of the *Ksharasutra* thread, which involved a meticulous process. A Barbour thread was initially dipped in *Snuhiksheera* (the latex of *Euphorbia Neriifolia*). This was followed by a careful mixing of *Snuhiksheera* with *Haridra Choorna* (powdered turmeric) to create a paste, which was used for subsequent coatings over the 21days. After each application, the thread was dried in sunlight, ensuring the herbal properties were effectively absorbed.

This comprehensive approach highlights the significance of *Ksharasutra* in managing Fistula-in-Ano while accentuating the traditional methods employed in Ayurveda for optimal therapeutic outcomes.

II. CASE HISTORY

A 20-year-old male student presented on 07th JANUARY 2024 with complaints of swelling, pus discharge, and pain in the perineal region persisting since 8 months. He had no history of diabetes mellitus or hypertension before the onset of symptoms.

He took allopathy treatment 8 month but he didn’t get relief. After eight months, on 07th January 2024, presented to our clinic with worsening symptoms. He reported persistent swelling and pus discharge for two months, exacerbated by severe pain over the past week. On inspection on 07th January 2024, three external opening of fistula in ano is present on perianal region . the first opening at 1o'clock 5-6 cm away from anal verge, second opening of fistula at 3o'clock 2-3 cm away from anal verge, and last third opening at 9 o'clock 2-3 cm away from anal verge. the third opening of fistula (at 9o'clock) is associated with highly hyper-granulated tissue. Redness was observed around the external opening. Digital examination revealed normal sphincter tone, with induration identified at the 1 o'clock position. Upon probe insertion, an internal opening was confirmed the location. The diagnosis was confirmed to be Fistula In-Ano which very well has similarities with *Bhagandara* mentioned in *Ayurveda* classics.

III. DIAGNOSTIC CRITERIA

The diagnosis was made on the basis of clinical features and local inspection of anorectum, palpation i.e. PR digital examinations.

A. General Examinations

1) Vital Signs

- Temperature:- 99°F(37.2°C)
- Pulse:- 78bpm
- Blood Pressure:- 120/80mmofhg
- Respiratory Rate:- 22/min
- Blood Glucose:- 90mg/dL.

2) Systemic Examination

a) Cardiovascular System- Normal beat and rhythm.

b) Respiratory System:- B/L clear no added sound.

c) Abdominal Examination:- Normal, soft, non-tender.

d) Lymphatic System

- Inguinal lymphadenopathy- not palpable

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3) Perineal Inspection (done in local or per rectal exam)

Patient examined in the examination room on the examination table in lithotomy position with the presence of full and clear light visibility.

a) External openings- Three external openings of the fistula in ano is present on the perianal region. the first opening is at 1 o'clock 5-6 cm away from the anal verge, the second opening of the fistula at 3 o'clock 2-3 cm away from the anal verge, and the last third opening at 9 o'clock 2-3 cm away from the anal verge. the third opening of the fistula (at 9 o'clock) is associated with highly hyper-granulated tissue.

b) Induration- present at 1 o'clock position

c) Discharge- Pus discharge present at 3 o'clock and 9 o'clock position fistula opening.

d) Per rectal examination – On PR the large induration and ulceration were present at 12 o'clock with mild tenderness in mid anal canal. The examine finger smear with pus discharge.

e) Probing - During the examination of the fistulous tract at the 1 o'clock position (with the patient in the lithotomy position), the tract was found to direct downward toward the mid-anal canal but was incomplete. When a probe was inserted laterally at the anal verge, it emerged from a second external opening located at the 3 o'clock position. This finding indicates that the 1 o'clock and 3 o'clock external openings are interconnected subcutaneously.

When 2 ml of lignocaine jelly was instilled into the 1 o'clock external opening, it exited from the 3 o'clock opening. No trace of the jelly was found within the anal canal, indicating that the tract does not communicate with the lumen of the anal canal.

Upon probing from the 3 o'clock external opening, the probe was palpable at the mid-anal canal region at the 3 o'clock position; however, the tract appeared to be incomplete.

Additionally, a separate external opening at the 9 o'clock position was covered with hypergranulation tissue. Upon probing, this tract was determined to be complete, extending to the upper anal canal and reaching the anorectal junction.

4) History of Associated Conditions to Screen For

- Diabetes mellitus - NO
- Tuberculosis - NO
- Crohn's disease - NO
- Thyroid - NO
- Cardiovascular disease - NO
- Immunosuppression (HIV, steroid use) - NO
- Any drug allergy - NO
- Surgical procedure – NO

5) Investigations After General Examination

These are usually ordered based on findings:

- Complete Blood Count (CBC) – All parameters are in normal range.
- Blood sugar levels – 90mg/dL.
- Erythrocyte Sedimentation Rate (ESR)/CRP – 14mm/hr and CRP is 3mg/dL.
- HIV, HBsAg, HCV – non reactive.
- Chest x-ray – normal findings.

B. Preoperative Procedures

1) Written informed consent was taken before intervention.

2) Patient was kept nil orally 6 hours before Procedures.

3) Preparation of parts i.e. shaving of perineal area.

4) Soap water enema before on hours of the day of operation.

5) Inj. T.T., 0.5 ml, intramuscular (IM) was given before the procedure.

6) Intra-dermal injection of xylocaine 2% was given for the sensitivity test.

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C. Operative Procedure

The patient was placed in the lithotomy position on the operation table. The perineal region was clean with antiseptic solution. The perineal region covered with cut sterile towel, leaving its operative part. followed by local anaesthesia infiltration using 2% xylocaine. The lubricated left hand index finger was inserted in to anal canal and a malleable silver probe thread with *ksharsutra* in its eye inserted in to 3 o'clock fistula tract by second hand, the internal opening was negotiated at 3 o'clock in mid anal canal. the probe was taken out of anal outlet from pulp of index finger in the anal canal with the pressure from second hand on the probe. the probe was pulled out of anal orifice leaving the *ksharsutra* thread in the fistula tract with the 2cm of KS 3 strong knots was applied. Leaving the loop of *KS* 3cm loose. Same process done in 9 o'clock position fistula tract. Lastly clean the operative area and dressing done and patient sift on bed.

D. Postoperative Care

After one hour, the patient was provided with sweet lime juice. Vital signs including blood pressure, pulse rate, temperature, and oxygen saturation were monitored two hourly for the next six hours. Medications prescribed included Tab. Novomox cv 625mg bid, Tab. Reb Dsr Od before food, and Tab. Zerodol sp bd for 7days, panchsakar churana 1 tsf with lukewarm water. Post operative dressing was done with *Jatiyadi Tail*, 10 ml once a day as *Matra Basti*. Patients were advised to take fiber rich diet and more liquids.

Follow up- table

Date	Weeks	Size in cm of ksharsutra thread	Procedures	Medications
07/01/2024	0 week		No procedure, only consultation, suggest some routine tests like (when patient agree for KS therapy)- CBC, ESR, CRP, HIV, HCV, HBsAg, CHEST X-RAY	Only *Ayurvedic* conservative treatment. Tab. Septilin Bid Tab. *Aarogyavardhani* Bid Tab. *Sutshekar* Rash Bid After meal
21/01/2024	0 week		*Ksharsutra* (KS) application in the fistula tract and ligation of hyper-granulation tissue with KS	Antibiotics, painkillers, antacids, panchsakar churna 1tsf with lukewarm water Hs. Hot sitz bath bid. Jatiyadi oil for L/A bid.
22/01/2024	0 week		General inspection and discharge, KS packing in 1 o'clock fistula opening.	Antibiotics, painkillers, antacids, panchsakar churna 1tsf with lukewarm water hs. For 7 days Hot sitz bath bid. Jatiyadi oil for L/A bid.
28/01/2024	1st week	3 o'clock- 5cm 9 o'clock- 6cm	Hyper-granulation tissue cut through itself. Swelling reduced from fistula openings. KS packing at 1 o'clock track Thread change and tightening.	Stop antibiotics Hot sitz bath bid Jatiyadi oil for L/A bid Painkiller tab. SOS Tab. Chitrakadi vati 2tab bid Tab. Mahashankvati 2tab. Bid Before meal Tab. Septilin 1tab. Bid Tab. Aarogyvardhani 2tab bid After meal.

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04/02/2024	2nd week	3 o'clock- 4cm 9 o'clock- 5cm	3 o'clock and 9 o'clock thread changed and tightening. Another KS was inserted between 1 o'clock and 3 o'clock fistula opening because of incomplete drainage of pus from 3 o'clock fistula opening	Hot sitz bath bid Jatiyadi oil for L/A. Painkiller tab. SOS Tab. Chitrakadi vati 2tab bid Tab. Mahashankvati 2tab. Bid Before meal Tab. Septilin 1tab. Bid Tab. Aarogyvardhani 2tab bid After meal.
11/02/2024	3rd week	3 o'clock- 3cm 9 o'clock- 4cm B/W 1 & 3 o'clock- 5cm	Thread change and tightening	Hot sitz bath bd Jatiyadi oil for L/A. Painkiller tab. SOS Tab. Chitrakadi vati 2tab bid Tab. Mahashankvati 2tab. Bid Before meal Tab. Septilin1tab. Bid Tab. Aarogyvardhani 2tab bid After meal.
03/03/2024	6th week	B/W 1 & 3 o'clock- 3cm	3 o'clock and 9 o'clock fistula tract cut through. Thread change and tightening between 1 o'clock and 3 o'clock opening. Healing well.	Hot sitz bath bid Jatiyadi oil for L/A. Painkiller tab. SOS Tab. Chitrakadi vati 2tab bid Tab. Mahashankvati 2tab. Bid Before meal Tab. Septilin 1tab. Bid Tab. Aarogyvardhani 2tab bid After meal.
17/03/2024	8th week	B/W 1&3 o'clock- 2cm	Thread change and tightening between 1 o'clock and 3 o'clock opening. Healing well.	Hot sitz bath bid Jatiyadi oil for L/A. Painkiller tab. SOS Tab. Chitrakadi vati 2tab bid Tab. Mahashankvati 2tab. Bid Before meal Tab. Septilin 1tab. Bid Tab. Aarogyvardhani 2tab bid After meal.
31/03/2024	10th week		KS cut through between 1 o'clock and 3 o'clock tract. Healing well.	Hot sitz bath bid Jatiyadi oil for L/A Antibiotics, anti-inflammatory. Painkiller tab. SOS Tab. Chitrakadi vati 2tab bid Tab. Mahashankvati 2tab. Bid Before meal Tab. Septilin 1tab. Bid Tab. Aarogyvardhani 2tab bid After meal.

07/04/2024	11th week		On PR no pain, no tenderness, no discharge, Healed up.	Hot sitz bath bid Jatiyadi oil for L/A Painkiller tab. SOS Tab. Chitrakadi vati 2tab bid Tab. Mahashankvati 2tab. Bid Before meal Tab. Septilin 1tab. Bid Tab. Aarogyvardhani 2tab bid After meal.
14/04/2024	12th week		On PR no pain, no tenderness, no discharge, Healed up.	No medication



Fig. 1.1 - Patient first opd vist (07.01.2024)



Fig. 1.2 just after ksharsutra application and ligation



Fig. 1.3 – Second day of KS application (22.01.2024)



Fig. 1.4 – 1st week (28.02.2024)



Fig. 1.5 – 2nd week (04.02.2024)



Fig. 1.6- 3rd week (11.02.2024)



Fig. 1.7 – 6th week (03.03.2024)



Fig. 1.8 – 8th week (17.03.2024)

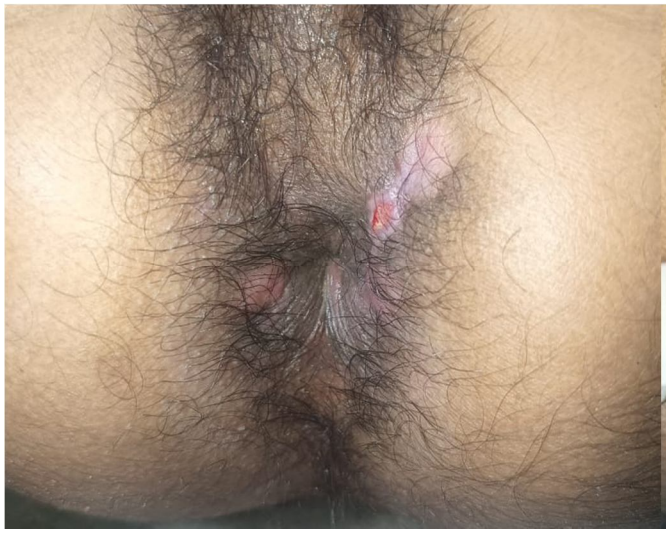


Fig. 1.9- 10th week (31.03.2024)



Fig. 1.10- 11th week (07.04.2024)

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Fig. 1.11- 12th week (14.04.2024) on PR no pain, no tenderness, no pus discharge ,healed up.

IV. PATHYA AND APATHYA

Incorporating these practices into your daily routine will significantly enhance digestion, prevent constipation, reduce inflammation, and promote effective wound healing:

A. Dietary Pathya

1) Easily digestible foods - Consider nourishing options like *khichadi*, green gram soup (*mudga yusha*), and boiled vegetables, which are gentle on the stomach.
2) High-fiber diet -Embrace a variety of leafy greens (*palak, methi*), gourds (*lauki, tori*), carrots, and beetroot to keep your digestive system in top shape.
3) Warm water- Drinking and using warm water for washing supports digestion while flushing out harmful toxins.
4) Old rice - This easily digestible choice is kind to the digestive system.
5) Cow's ghee - Its natural properties help lubricate the rectum, softening stools for easier passage.
6) Wheat/Barley-based diet - These grains promote regular bowel habits, ensuring digestive health.
7) Buttermilk (*Takra*)- Including this probiotic-rich drink can enhance gut health and facilitate digestion.
8) Panchsakar Churna - Regular consumption of this blend can effectively prevent constipation and support overall health.

B. Lifestyle Pathya

1) Hot sitz baths- Regularly taking baths with Triphala decoction or lukewarm water can significantly encourage local healing.
2) Proper defecation habits- Establishing a regular routine will ensure ease of passing stools without straining.
3) Moderate exercise- Engage in light activities, such as walking or yoga (*Pawanmuktasana, Vajrasana*), to keep your body active.
4) Adequate sleep and stress management - Prioritizing restful sleep and managing stress effectively are crucial for optimal health.
5) Personal hygiene- Consistently cleansing the anal region after bowel movements will prevent potential complications.
6) Matra Basti (jatiyadi oil enema)- This can support local healing and help maintain *vata* balance for improved wellness.

C. Apathya (Unwholesome – Should Be Avoided)

Dietary *Apathya* - Constipating foods, Spicy, sour, salty, and oily foods, Red meat, eggs, and seafood, Excessive dairy products, Junk food, fast food, and carbonated drinks, Alcohol and smoking.

D. Lifestyle Apathya

1) Long periods of sitting- This decreases circulation to the rectal area and can lead to complications.
2) Straining during defecation- Avoid delaying bowel movements, as this can lead to greater difficulties.
3) Excessive sexual activity- This may increase vata and can lead to adverse effects.
4) Overexertion and an irregular routine- Both can adversely impact your health, so maintaining balance is crucial.
5) Wearing tight clothing- Especially around the waist and perineum, can aggravate discomfort.
6) Neglecting hygiene- Ensuring cleanliness in the perianal region is vital to prevent issues.

By embracing the principles of pathya and steering clear of apathya, you can significantly enhance recovery and overall well-being.

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V. DISCUSSION

Acharya Sushruta, an ancient Ayurveda clinician and surgeon, classified the treatment of Bhagandara (fistula-in-ano) into four categories: Bheshaja, Ksarakarma, Agnikarma, and Shastrakarma. In modern medicine, treatments such as fistulotomy, fistulectomy, and seton ligation are commonly performed. However, these procedures often come with higher recurrence rates and complications, including postoperative bleeding, infection, pain, and delayed healing. In contrast, Ksharasutra ligation presents several advantages due to its minimal complications and low recurrence rates. It reduces the risk of complications such as fecal incontinence and anal stricture, which can arise from conventional surgical methods. The effectiveness of Ksharasutra can be attributed to its unique properties. Snuhi ksheera, which is used in the preparation of Ksharasutra, has both cleansing (Shodhana) and healing (Ropana) properties. The ingredients of Ksharasutra, including the herbs Apamarga, Tilanala, and Snuhi, exhibit bitter (Katu) and pungent (Tikta) tastes, along with hot potency (Ushna Virya), a sharp post-digestive effect (Katu Vipaka), and properties that pacify Kapha and Pitta Dosha. Additionally, Haridra (turmeric) powder, known for its antiseptic qualities, supports the healing of the fistulous tract.

A. Outcome and Follow-up

The results were promising:

1) The fistulous tracts showed progressive shortening and healing week-by-week.
2) By the 10th–12th week, all tracts had been cut through, and the perianal region was healed with no pain, discharge, or tenderness.
3) No recurrence was observed during the follow-up till the 12th week, indicating effective tract obliteration and healing.

The use of supportive Ayurvedic medications like *Chitrakadi Vati*, *Mahashankh Vati*, *Septilin*, and *Aarogyavardhini* may have helped in regulating digestion, reducing inflammation, enhancing immunity, and supporting wound healing. Local care with Jatyadi Tail and hot sitz baths also provided antiseptic and soothing action to the wound site.

B. Significance of the Case

This case emphasizes the effectiveness of Ksharasutra therapy in treating complex, recurrent fistula-in-ano with multiple tracts and hypergranulation. The method avoids surgical incontinence risks, especially in high or branching fistulae, as the treatment progresses gradually and allows tissue healing in tandem with tract excision.

Compared to modern surgical approaches (fistulectomy, seton placement, or advancement flap procedures), Ksharasutra is minimally invasive, can be done under local anesthesia, and is especially beneficial for resource-limited settings or recurrent cases.

C. Strengths of the Management

1) Accurate probing and tract identification.
2) Use of Ayurvedic principles integrated with surgical asepsis.
3) Consistent follow-up with documented changes in tract size and patient condition.
4) Comprehensive internal and local Ayurvedic medication protocol.

D. Limitations and Considerations

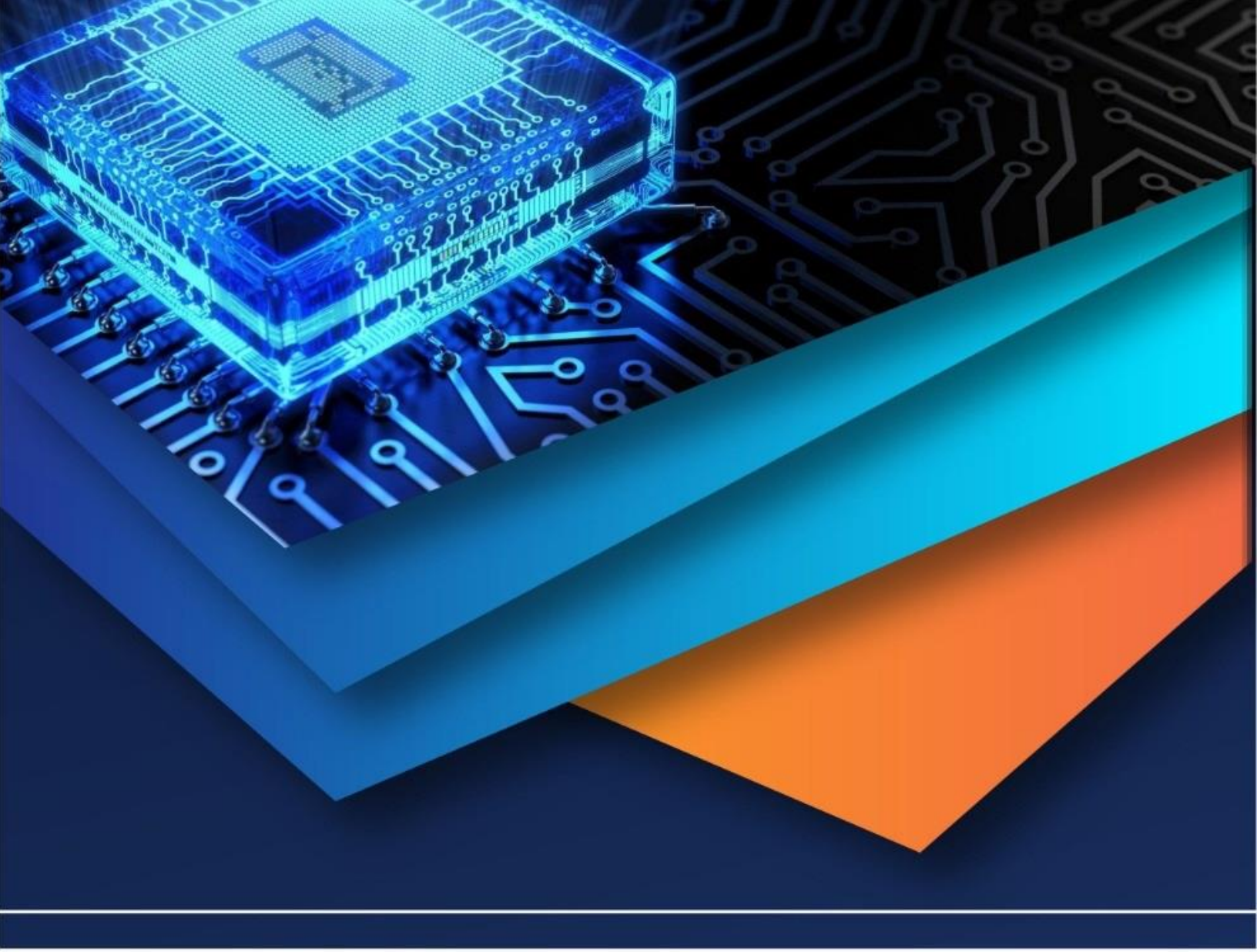
1) Ksharasutra therapy is time-intensive and may not be suitable for all patients (e.g., those with poor compliance or severe pain intolerance).
2) Pain and discomfort during the thread tightening/change procedures can be a concern.
3) Requires specialized training and experience for proper application and tract assessment.
4) Long-term follow-up beyond 12 weeks would further validate recurrence prevention.

VI. CONCLUSION

This case illustrates that Ksharasutra therapy, when appropriately applied, offers a safe, effective, and non-recurrent treatment for even complex cases of fistula-in-ano. The Ayurvedic approach, blending surgical technique with herbal pharmacopeia, provides not only tract resolution but also promotes systemic healing and immune balance. This reinforces the clinical value of integrating Ayurvedic parasurgical methods with modern diagnostic protocols in managing chronic anorectal conditions.

[i] A manual on clinical surgery- S Das 16th edition Chapter 36 EXAMINATION OF A RECTAL CASE.
[ii] SRB's Manual of surgery- Sriram Bhat M 6th edition Chapter 25 Rectum and Anal canal.

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