

DELAYED PRIMARY CLOSURE FOLLOWING FISTULECTOMY in BHAGANDARA

Dr. Vaibhav H. Pagore*¹, Dr. Shivpal G. Khandizod²

¹PG Scholar, Department of Shalyatantra, Ashvin Rural Ayurvedic College and Hospital, Manchi Hill, Sangamner, Ahilya Nagar, Maharashtra – 413714, India.

²Professor, Head & Guide, Department of Shalyatantra, Ashvin Rural Ayurvedic College and Hospital, Manchi Hill, Sangamner, Ahilya Nagar, Maharashtra – 413714, India.

Article Info: Received: 06 July 2026, Revised: 26 August 2026, Accepted: 16 September 2026

***Corresponding Author: Dr. Vaibhav H. Pagore**

PG Scholar, Department of Shalyatantra, Ashvin Rural Ayurvedic College and Hospital, Manchi Hill, Sangamner, Ahilya Nagar, Maharashtra – 413714, India.

DOI: <https://doi.org/10.5281/zenodo.23066166>



Citation:

Dr. Vaibhav H. Pagore*¹, Dr. Shivpal G. Khandizod². (2026). Delayed Primary Closure Following Fistulectomy In Bhagandara. International Journal of Clinical and Pharmaceutical Innovations, 1(7), 87-91.

ABSTRACT

Background: Bhagandara is an important disorder described in Ayurvedic Shalyatantra and is clinically correlated with fistula-in-ano. Established fistula-in-ano generally requires definitive surgical management. Following fistulectomy, the resultant wound may be managed by secondary intention or selected closure techniques. Delayed primary closure involves initially maintaining the wound open for drainage and wound care, followed by closure after satisfactory wound-bed preparation. **Case Presentation:** A 47-year-old male presented with pain in the anal and perianal region, purulent discharge, painful defecation, soiling of undergarments and fever. Clinical examination revealed an external opening at the 8 o'clock position and an internal opening at the 6 o'clock position, consistent with an intersphincteric fistula-in-ano. A posterior fissure-in-ano was also identified. Laboratory investigations showed haemoglobin 12 g/dL, total leukocyte count 12,000/mm³, platelet count 258,000/mm³ and serum creatinine 0.9 mg/dL. Fistulectomy with fissurectomy was performed. The wound was initially managed open with regular wound cleaning and antibiotic coverage. On postoperative day 7, healthy granulation tissue was present without slough or discharge. The wound edges were freshened and the wound was closed using Ethilon mattress sutures. **Outcome:** The sutures were removed on postoperative day 22. During 3 months of follow-up, pain and discharge had subsided, satisfactory wound healing was observed and no clinically evident recurrence was noted. **Conclusion:** This case demonstrates the clinical feasibility of delayed primary closure following fistulectomy in a selected patient with fistula-in-ano. The approach allows initial wound drainage and assessment of the wound bed before closure. Comparative studies with standardized outcome measures are required to establish its clinical utility.

KEYWORDS: Bhagandara; fistula-in-ano; fistulectomy; delayed primary closure; Shalyatantra; Shashtra Karma; intersphincteric fistula; fissure-in-ano.

1. INTRODUCTION

Bhagandara is described among the important disorders

of the Guda region in classical Ayurvedic Shalyatantra. Sushruta describes Bhagandara as a disorder involving

the Bhaga, Guda and Basti-pradesha and describes five varieties according to their Dosha and clinical characteristics: Shataponaka, Ushtragriva, Parisravi, Shambukavarta and Unmargi.^[1]

Sushruta further describes the initial lesion as Bhagandara-pidaka, which, after suppuration and progression, develops into established Bhagandara.^[1] The classical description includes symptoms such as Ruja, Kandu, Daha and Shopha in the affected region.^[1]

In contemporary surgery, fistula-in-ano is an abnormal tract communicating between the anal canal or rectum and the perianal skin. The principal objectives of treatment are eradication of the fistulous tract, control of sepsis and preservation of anal sphincter function.^[2,3]

Fistulectomy involves excision of the fistulous tract and results in an open surgical wound. The wound may be allowed to heal by secondary intention or may be closed using selected techniques. Current evidence does not establish clear superiority of fistulectomy over fistulotomy with respect to healing time or recurrence in simple fistula-in-ano.^[4]

Delayed primary closure involves initially leaving the wound open, allowing drainage and wound-bed assessment, followed by closure after development of a healthy wound bed. A prospective comparative study has evaluated fistulectomy followed by delayed primary closure in patients with fistula-in-ano.^[5]

The present case describes the management of Bhagandara, clinically corresponding to an intersphincteric fistula-in-ano, by fistulectomy with fissurectomy followed by delayed primary closure.

2. AYURVEDIC PERSPECTIVE

2.1 Nidana

According to Sushruta, Bhagandara develops due to Vata, Pitta, Kapha, Tridosha and Agantuka causes, corresponding to its five classical varieties.^[1]

The vitiated Dosha affect the local tissues of the Guda-pradesha, resulting in the development of Bhagandara-pidaka. With progression of the pathological process, the lesion undergoes Paka and eventually develops into an established fistulous tract.^[1]

In the present case, a specific classical Doshaja variety was not assigned because the available clinical findings were insufficient to establish a definite classical subtype.

The following laboratory investigations were recorded:

Investigation	Result
Haemoglobin	12 g/dL
RBC count	4.78 million/mm ³
creatinine	0.9 mg/dL
Serum sodium	137 mmol/L
AST	34 U/L
ALT	38 U/L
Total leukocyte count	12,000/mm ³
Platelet count	258,000/mm ³
Serum urea	33 mg/dL
Serum potassium	4.2 mmol/L
Total bilirubin	0.9 mg/dL

2.2 Purvarupa

Sushruta describes the Purvarupa of Bhagandara as pain in the affected region along with Kandu, Daha and Shopha.^[1]

These features represent the early stage preceding the development of an established fistulous tract.

2.3 Rupa

The established Bhagandara is characterized by persistent pathological communication and discharge through the fistulous tract.^[1]

In the present case, the patient had anal and perianal pain, purulent discharge, painful defecation, soiling of undergarments and fever.

An external opening was identified at the 8 o'clock position and an internal opening at the 6 o'clock position. The tract was clinically assessed as an intersphincteric fistula-in-ano.

2.4 Samprapti

The Ayurvedic disease process may be understood conceptually as: Nidana → Dosha-prakopa → Dosha-dushya sammurchana → local involvement of Mamsa/Rakta in Guda-pradesha → Bhagandara-pidaka → Paka → Bheda → Nadi/tract formation → persistent discharge → Bhagandara.

Thus, the initial localized pathological process progresses through Paka and Bheda to formation of a persistent tract.

This Samprapti is presented as an Ayurvedic conceptual interpretation and does not imply that the classical varieties of Bhagandara are identical to modern anatomical classifications of fistula-in-ano.

3. CASE PRESENTATION

A 47-year-old male presented with complaints of pain in the anal and perianal region, pus discharge, painful defecation, soiling of undergarments and fever.

Clinical examination revealed an external opening at the 8 o'clock position and an internal opening at the 6 o'clock position. The fistulous tract was clinically assessed as an intersphincteric fistula-in-ano. A posterior fissure-in-ano was also identified.

MRI fistulogram revealed a posterior midline intersphincteric fistulous tract measuring approximately 3.7 cm, with an internal opening at the 6 o'clock position and an "external opening at the 8 o'clock position". No associated perianal collection or abscess was identified.

Based on the clinical & radiological findings, a diagnosis of intersphincteric fistula-in-ano with posterior fissure-in-ano was made.

4. SURGICAL MANAGEMENT — SHASTRA KARMA

Sushruta describes examination of the fistulous tract followed by appropriate Shashtra Karma for established Bhagandara.^[1]

In the present case, fistulectomy with fissurectomy was performed.

The fistulous tract was excised and the postoperative wound was initially left open. Regular wound cleaning and appropriate antibiotic coverage were provided.

During the first postoperative week, the wound was monitored clinically. On postoperative day 7, healthy granulation tissue was present, with no slough or discharge.

At this stage, delayed primary closure was performed. The wound edges were freshened and the wound bed was scraped until healthy bleeding tissue was obtained. After confirming the absence of slough and discharge, the wound was approximated using Ethilon mattress sutures.

Antibiotic coverage was continued for 5 days, with regular clinical follow-up.

The surgical sequence was: Fistulectomy + Fissurectomy → Open wound management → Wound cleaning → Healthy granulation → Freshening of wound edges → Delayed primary closure → Wound healing.

The terms Shodhana and Ropana may conceptually describe wound-bed preparation and subsequent healing; however, no specific classical Shodhana or Ropana formulation was used in this case.

5. FOLLOW-UP AND OUTCOME

The sutures were removed on postoperative day 22.

The patient was followed clinically for 3 months. During follow-up, pain and discharge had subsided, satisfactory wound healing was observed and no clinically evident recurrence was noted.

The final scar was clinically satisfactory without a prominent scar.

Only the excised fistulous tract was photographed; postoperative wound photographs were unavailable, and

wound healing was assessed clinically during follow-up.

As this was a single case, the observed outcome is presented as a clinical observation and not as evidence of superiority over secondary intention healing or other surgical techniques.

6. DISCUSSION

The management of fistula-in-ano requires eradication of the fistulous tract while preserving anal sphincter function.^[2,3] Appropriate treatment depends on fistula anatomy, sphincter involvement, associated disease and recurrence status.

From the Ayurvedic perspective, Bhagandara is an established disorder described in Shalyatantra, with detailed descriptions of its Nidana, Purvarupa, Rupa and surgical management.^[1] The present case was clinically correlated with fistula-in-ano while retaining the classical Ayurvedic terminology.

Fistulectomy was selected in the present case to excise the identified pathological tract. A recent systematic review and meta-analysis of 13 randomized studies involving 1,373 patients found no significant difference between fistulectomy and fistulotomy in healing time or recurrence, although postoperative pain was lower with fistulectomy and postoperative bleeding was lower with fistulotomy.^[4]

The distinctive feature of the present case was delayed primary closure following fistulectomy. Instead of immediate closure, the wound was initially maintained open and managed with regular wound cleaning. Closure was undertaken only after healthy granulation tissue had developed and no slough or discharge was present.

A prospective comparative study by Chaudhary et al. evaluated fistulectomy followed by delayed primary closure and reported favorable clinical outcomes.^[5] Other studies have also examined primary closure and open wound management following fistulectomy.^[6-8]

The rationale for delayed primary closure is to allow initial drainage and observation of the wound before approximation of the wound edges. In the present case, the wound demonstrated healthy granulation tissue on postoperative day 7, after which the edges were freshened and approximated using mattress sutures.

The Ayurvedic surgical principle of management of established Bhagandara involves appropriate Shashtra Karma following identification of the pathological tract.^[1] The present surgical procedure represents a modern operative technique performed within a Shalyatantra clinical setting. The subsequent wound management can be conceptually discussed in relation to Vrana Shodhana and Vrana Ropana, without claiming that delayed primary closure itself is a procedure specifically described by Sushruta.

The principal limitation of this report is its single-case design. It does not permit assessment of comparative healing time, recurrence rate, postoperative pain, continence or complication rates. Further prospective comparative studies are required to evaluate delayed primary closure against secondary intention healing following fistulectomy.

7. AYURVEDIC SHALYATANTRA PERSPECTIVE

Sushruta places considerable emphasis on the surgical management of established Bhagandara.^[1] The identification and removal of the pathological tract form an important component of definitive surgical management.

In the present case, fistulectomy was performed for removal of the fistulous tract. The procedure may be discussed within the broader framework of Shastra

Karma, followed by appropriate wound management.

The postoperative wound was initially kept open and observed until a healthy wound bed developed. This approach is conceptually compatible with the principles of Vrana Shodhana followed by Vrana Ropana, although delayed primary closure is a modern surgical wound-closure technique.

Thus, the case demonstrates an integration of classical Shalyatantra terminology and modern surgical wound-management principles without equating modern anatomical fistula classification directly with a specific classical Bhagandara subtype.

FIGURE LEGEND

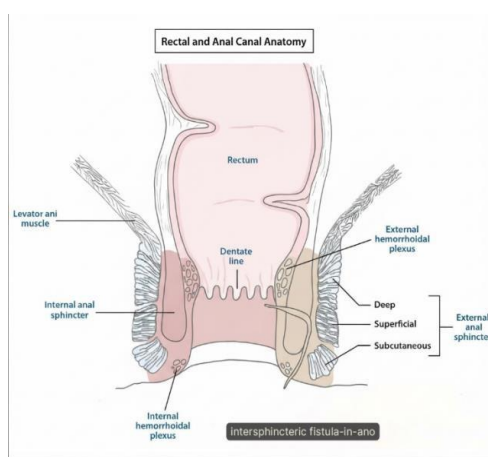


Figure 1: Rectal and anal canal anatomy demonstrating the intersphincteric fistulous tract layout in relation to the internal and external anal sphincters, dentate line, and levator ani muscle.



Figure 2: Excised fistulous tract following fistulectomy in a patient with Bhagandara (intersphincteric fistula-in-ano).

Note: Only the excised fistulous tract was photographed; postoperative wound photographs were unavailable, and wound healing was assessed clinically during follow-up.

8. CONCLUSION

Delayed primary closure following fistulectomy was successfully performed in this selected case of intersphincteric fistula-in-ano clinically correlated with Bhagandara.

Initial open wound management allowed assessment of the wound condition, followed by closure after development of healthy granulation tissue. Satisfactory healing and absence of clinically evident recurrence were observed during 3 months of follow-up.

This case demonstrates the feasibility of delayed primary closure following fistulectomy but does not establish comparative efficacy. Prospective comparative studies with standardized assessment of healing time, postoperative pain, wound complications, continence and recurrence are required.

9. PATIENT CONSENT

Written informed consent was obtained from the patient for the surgical procedure, clinical treatment, publication of the case report and publication of the accompanying clinical photograph.

10. ETHICAL STATEMENT

Not included as a separate section. The patient consent statement above is retained.

11. CONFLICT OF INTEREST

The authors declare no conflict of interest.

12. FUNDING

No external funding was received for this case report.

13. AUTHOR CONTRIBUTIONS

- **Dr. Vaibhav H. Pagore:** Clinical assessment, data collection, literature review and manuscript preparation.
- **Dr. Shivpal G. Khandizod:** Clinical supervision, surgical guidance, critical review and final approval of the manuscript.

REFERENCES

1. Sushruta. Sushruta Samhita. Nidana Sthana, Bhagandara Nidana, Chapter 4; Chikitsa Sthana, Bhagandara Chikitsa, Chapter 8. Varanasi: Chaukhambha Sanskrit Sansthan.
2. Vogel JD, Johnson EK, Morris AM, et al. Clinical Practice Guideline for the Management of Anorectal Abscess, Fistula-in-Ano, and Rectovaginal Fistula. *Dis Colon Rectum*, 2016; 59(12): 1117-1133.
3. Gaertner WB, Burgess PL, Davids JS, et al. The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Management of Anorectal Abscess, Fistula-in-Ano, and Rectovaginal Fistula. *Dis Colon Rectum*, 2022; 65: 964-985.
4. Quinn R, Peacock A, Lendzion RJ. Fistulotomy versus fistulectomy for simple fistula-in-ano: a systematic review and meta-analysis of randomized controlled trials. *ANZ J Surg*, 2025; 95(6): 1074-1090. doi:10.1111/ans.70095.
5. Chaudhary V, Rathore AS, Ahmad S, Dhama S, Solanki P, Sharma D. A prospective comparative study of open fistulotomy vs fistulectomy and delayed primary closure in simple and complex in ano. *Int J Contemp Surg*, 2017; 5(2): 33-37. doi:10.5958/2321-1024.2017.00034.4.
6. Garag S, Nagur B. A comparative study of laying open of wound vs primary closure in low fistula in ano. *Int Surg J.*, 2019. doi:10.18203/2349-2902.isj20192993.
7. Basa M, Prakash K. A study on outcome of primary closure versus open fistulectomy in low level fistula in ano. *Int Surg J.*, 2020. doi:10.18203/2349-2902.isj20201166.
8. Ghose SS, Das Chowdhury M, Dharmamer MY. Clinical study of fistula in ano with special reference to its surgical management. *Int Surg J.*, 2020. doi:10.18203/2349-2902.isj20201403.
9. Parkash S, Lakshmiratan V, Gajendran V. Fistula-in-ano: treatment by fistulectomy, primary closure and reconstitution. *Aust N Z J Surg*, 1985; 55(1): 23-27. doi:10.1111/j.1445-2197.1985.tb00849.x.
10. Ommer A, Herold A, Berg E, et al. German S3 guidelines: anal abscess and fistula. *Int J Colorectal Dis.*, 2017; 32: 553-564.
11. Pescatori M. Surgery for anal fistulae: state of the art. *Int J Colorectal Dis.*, 2021; 36(10): 2071-2079. doi:10.1007/s00384-021-03917-7.
12. Raut S, Kedar N, Akulwar AS. A study to evaluate the effectiveness of Ksharasutra ligation followed by fistulectomy in the management of Bhagandara (fistula-in-ano). *Int J Ayurveda Pharma Res.*