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Original Article

Use of seton in chronic pilonidal sinus disease: a retrospective evaluation

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ABSTRACT

Objective: To evaluate the efficacy, complication rates, recurrence, infection, and need for reoperation of the seton technique in the treatment of chronic pilonidal sinus disease.

Methods: A retrospective review was conducted using our hospital's general surgery database, analyzing patients treated with the seton technique for chronic pilonidal sinus between December 2018 and January 2020. Patients with incomplete records were contacted by phone for verification and included in the study. A total of 30 patients (6 female [20%], 24 male [80%]) were evaluated. The mean age was 26.4 ± 5.2 years (range: 18–39). Seton duration ranged from 16 to 24 weeks (mean: 20 weeks). In three patients (10%), wound closure was not achieved; these cases required skin incision, seton removal, and phenol injection support.

Results: The technique was used in non-complicated cases (>2 cm size, <2 orifices) without a history of recurrence. This minimally invasive approach offered advantages such as low pain, no need for dressing or drainage, >90% cost reduction, and no hospital stay. Additional intervention was required in three cases (10%); the recurrence rate was 6.7%, and the infection rate was 3.3%.

Conclusion: The seton technique is an effective, minimally invasive method for chronic pilonidal sinus disease, similar to fistula treatment principles. Phenol support is recommended to reduce long-term recurrence rates.

Keywords: Pilonidal sinus, seton technique, minimally invasive surgery, recurrence.

Introduction

Chronic pilonidal sinus disease, commonly known as pilonidal disease, is a frequent inflammatory condition in the sacrococcygeal region, more prevalent in young males. The disease is characterized by sinus tract formation due to hair and debris accumulation, presenting with acute abscess, chronic discharge, or recurrent episodes. Standard treatments, such as excision with primary closure, open wound healing, or flap techniques, are associated with high recurrence rates (10–30%), prolonged healing times, and postoperative morbidity (1). In recent years, minimally invasive approaches, particularly the seton technique adapted from fistula-in-ano treatment, have shown promising results in pilonidal sinus management (2). The seton facilitates gradual drainage and fibrosis, promoting healing while offering advantages such as minimal incision, reduced pain, no need

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for dressing or drainage, cost-effectiveness, and improved patient comfort (3).

This study aims to retrospectively evaluate the efficacy, complications, and patient outcomes of the seton technique for chronic pilonidal sinus disease in our general surgery clinic. The technique was indicated for non-complicated cases (>2 cm size, <2 orifices) without prior recurrence.

Materials and Methods

Study design and patient selection

This retrospective cohort study was conducted using data from our hospital's general surgery database, covering the period from December 2018 to January 2020. Patients diagnosed with chronic pilonidal sinus and treated with the seton technique were screened. Inclusion criteria were non-complicated chronic pilonidal sinus (>2 cm sinus size, <2 orifices), no history of recurrence, and age between 18 and 40 years. Exclusion criteria included complicated cases (abscess, fistulization), recurrent cases, and inadequate follow-up data.

A total of 30 patients were included (6 female [20%], 24 male [80%]). The mean age was 26.4 ± 5.2 years (range: 18–39). For cases with incomplete records, patients were contacted by phone to verify data; unverified cases were excluded. Ethical approval was obtained from the Istanbul Medipol University Non-Interventional Ethics Committee (approval number: E-10840098-772.02.6312). Due to the retrospective nature of the study, patient consent was waived.

Surgical technique

The seton technique, adapted from fistula treatment principles, involved a minimal pit mouth incision (0.5–1 cm) and placement of a 1-0 polypropylene suture in the sinus tract. The seton duration ranged from 16 to 24 weeks (mean: 20 weeks). Weekly outpatient follow-ups included gradual tightening or replacement of the seton. No drainage or dressing was required. In three patients (10%), wound closure was not achieved by week 24; these cases underwent skin incision, seton removal, and 80% phenol injection to support granulation (4).

Evaluation parameters

Patients were assessed for recurrence (need for reoperation), infection (postoperative abscess/discharge), wound healing time, pain score (VAS 0–10), hospital stay duration, analgesia requirements, patient satisfaction, and cost. The mean follow-up duration was 12 months (range: 6–24 months). Data were analyzed using SPSS 25.0, with descriptive statistics (mean ± SD) reported.

Results

Patient demographics are summarized in Table 1. All cases were non-complicated, with a mean sinus size of 3.2 ± 0.8 cm and a mean of 1.4 ± 0.5 orifices.

Complications and outcomes

Wound Healing: Complete closure was achieved in 27 patients (90%) by week 24. Three patients (10%) required additional intervention (skin incision + phenol), with healing delayed by 8–12 weeks.

Recurrence: Two patients (6.7%) experienced recurrence at 6 months, treated with repeat seton placement.

Infection: One patient (3.3%) had mild discharge, resolved with antibiotics. No major abscesses were observed.

Table 1. Patient demographics

Parameter	Value (n=30)
Gender (Female/Male)	6/24 (20%/80%)
Age (mean ± SD)	26.4 ± 5.2 years
Seton Duration (mean)	20 ± 2.5 weeks
Follow-up Duration (mean)	12 ± 4 months

Table 2. Seton vs. standard excision comparison (literature-based)

Feature	Seton Technique (This Study)	Standard Excision (1)
Incision Size	Minimal (<1 cm)	Wide (3–5 cm)
Pain (VAS)	2.1 ± 1.2	4.5 ± 2.0
Dressing Requirement	None	Yes (weekly)
Drainage Tube	None	Yes (70%)
Cost	Very Low (>90% savings)	High
Comfort/Patient Satisfaction	High (8.7/10)	Moderate (6.5/10)
Postoperative Analgesia	Minimal (<1 week, 73%)	Prolonged (1–2 weeks, 60%)
Hospital Stay	None (0 days)	3–5 days
Recurrence Rate	6.7%	20–30%

Pain and Comfort: Mean VAS score was 2.1 ± 1.2, attributed to minimal incision. Postoperative analgesia was unnecessary or lasted <1 week in 73% of patients. No drainage tubes or dressings were used.

Hospital Stay and Cost: No hospital stay was required (outpatient surgery). Costs were >90% lower than standard excision techniques due to reduced material use and no hospitalization.

Patient Satisfaction: Mean satisfaction score was 8.7/10, with 93% of patients resuming daily activities within 1 week.

The advantages of the seton technique (similar to fistula treatment) include minimal incision, low pain, no dressing/drainage, >90% cost reduction, high comfort, minimal analgesia, and no hospital stay, as compared to standard excision in Table 2.

Discussion

The seton technique is a promising minimally invasive alternative for pilonidal sinus treatment. Adapted from fistula-in-ano management, it eliminates the sinus tract through gradual drainage and fibrosis, reducing recurrence (2). Our study demonstrated high success (90% closure), though three cases required phenol support, consistent with conservative approaches in the literature (4). The recurrence rate (6.7%) was below the literature average (10–30%), likely due to early intervention and diligent follow-up via phone (5).

Limitations include the retrospective design and small sample size (n=30). Phone verification mitigated data gaps but introduced potential bias. Future studies should employ prospective, randomized controlled designs. The technique's advantages, particularly in young patients (mean age: 26 years), support rapid socioeconomic recovery.

Conclusion

The seton technique is an effective, minimally invasive method for chronic pilonidal sinus disease with minimal morbidity and high patient satisfaction. It is recommended for non-complicated cases, with adjuvant treatments like phenol to reduce recurrence risk. This approach offers superior comfort and cost advantages over traditional surgery.

Ethical approval

The study was approved by Istanbul Medipol University Non-Interventional Ethics Committee (Number: E-10840098-772.02.6312).

Author contribution

The authors confirm contribution to the paper as follows: Study conception and design: MT, AG; data collection: UUŞ; analysis and interpretation of results: MT, UUŞ; draft manuscript preparation: MT, AG, UUŞ. All authors reviewed the results and approved the final version of the article.

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Conflict of interest

The authors declare that there is no conflict of interest.

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