

COMPARATIVE EFFECTIVENESS OF MEDICATED SETON VERSUS INFANT FEEDING TUBE IN MANAGING COMPLEX HIGH ANORECTAL FISTULAS: A PROSPECTIVE STUDY

General Surgery

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ABSTRACT

Complex anorectal fistulas pose a significant clinical challenge, often requiring surgical intervention to prevent recurrence and mitigate complications such as incontinence. This study aimed to compare the efficacy of medicated setons and infant feeding tubes (IFT) as drainage procedures in treating complex high anorectal fistulas. A total of 54 patients were divided into two groups, with 27 patients in each group. Group A used infant feeding tubes, and Group B employed medicated setons. The analysis was conducted to assess pain, weekly tie, cost, and durability of the treatments. The results showed that medicated seton provided better pain relief, while IFT offered advantages in terms of cost and durability. Both methods exhibited similar outcomes in the frequency of weekly tie adjustments.

KEYWORDS

anorectal fistulas, medicated seton, infant feeding tube, pain management, cost-effectiveness, durability

INTRODUCTION

Anorectal fistulas are abnormal tracts connecting the anal canal to the perianal skin, and they can vary in complexity depending on factors such as the number of tracts and the involvement of surrounding structures. Complex high anorectal fistulas present a greater challenge due to their location and proximity to the sphincter muscles, raising concerns about the risk of incontinence after treatment.

Traditional treatment options for complex fistulas include fistulotomy, seton placement, and sphincter-sparing procedures. Among these, seton placement is often preferred for its ability to maintain fistula drainage and minimize sphincter damage, reducing the risk of postoperative incontinence. Recent innovations in treatment involve the use of infant feeding tubes (IFT) and medicated setons, with various studies exploring their effectiveness in healing, reducing recurrence rates, and managing symptoms such as pain.

This study compares the clinical efficacy of these two techniques, focusing on four key parameters: pain relief, weekly tie adjustments, cost, and durability.

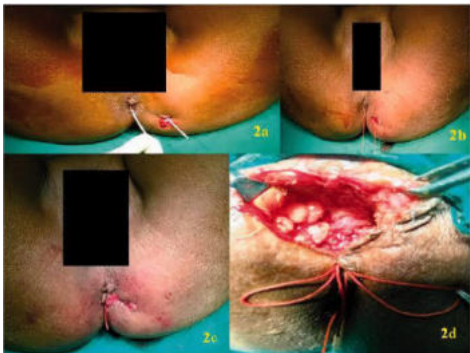


Figure 1:

Aim And Objectives

Aim:

To compare the success rates of treating complex high anorectal fistulas using medicated setons versus infant feeding tubes.

Objectives:

- To evaluate the clinical profiles and presentation of patients undergoing treatment with IFT or medicated seton.
- To assess prognostic factors and their relationship to outcomes.
- To evaluate the efficacy of IFT versus medicated setons over a six-month follow-up period.

Methodology

Study Design:

This prospective, observational study was conducted at Swaroop Rani Nehru Hospital, Prayagraj, between May 2023 and May 2024. Ethical clearance was obtained, and informed consent was secured from all participants.

Study Population:

A total of 54 patients with complex high anorectal fistulas were enrolled. Group A (n=27) received IFT as a drainage procedure, while Group B (n=27) received a medicated seton.

Inclusion Criteria:

- Participants aged 18-80 years with complex anorectal fistulas.
- Recurrence of disease, previous surgical treatment, and associated conditions such as hemorrhoids and anal fissures were also included.

Exclusion Criteria:

- Patients with radiation-induced fistulas, cancer, STDs, or inflammatory bowel diseases were excluded.

Sample size:

54 patients were randomly assigned to one of the two groups.

Data Analysis:

Multivariate analysis was performed using ANOVA to assess preoperative scores based on age, gender, and type of surgery. Categorical variables were analyzed using percentages, and continuous variables were presented as means $\pm$ SD. Chi-square or Fisher's exact tests were used to examine recurrence rates and other outcomes. SPSS 23 software was used for data analysis.

RESULT

Table – 1

Table 1: Comparative Analysis Of Ift And Medicated Seton In The Management Of Complex Anorectal Fistulas

Parameter	Group A (IFT)	Group B (Medicated Seton)	p-value
VAS Pain Scores	Higher	Lower	< 0.05
Weekly Tie Adjustments	Similar Frequency	Similar Frequency	0.30
Cost	Lower	Higher	-
Durability (Re-intervention need)	Higher	Low	-

Pain Management:

The study found that patients in Group B (medicated seton) experienced better pain relief compared to those in Group A (IFT). This difference in pain management was statistically significant, with lower Visual Analog Scale (VAS) scores reported for Group B ($p < 0.05$). The

medicated seton appears to have contributed to faster healing and a reduction in postoperative discomfort.

Weekly Tie Adjustments:

Both IFT and medicated seton groups required similar frequency of weekly tie adjustments. No significant differences were observed between the groups in this parameter ($p = 0.30$). The weekly tie procedure-maintained fistula patency in both cases and contributed to adequate drainage, ensuring fistula healing without undue discomfort for the patients.

Cost:

IFT demonstrated a cost advantage over medicated setons. The initial cost of IFT was significantly lower than the medicated seton approach, making it a more accessible option for patients with limited financial resources.

Additional Findings:

Age, gender distribution, and MRI findings showed no significant associations between the groups, except for recurrence rates, which were higher in the IFT group ($p < 0.05$).

DISCUSSION

The comparative study between infant feeding tubes (IFT) and medicated setons for treating complex high anorectal fistulas provides important insights into the management of this challenging condition. The key findings from the study, along with their clinical implications, are summarized below:

Pain Management

Patients in the medicated seton group (Group B) reported significantly lower Visual Analog Scale (VAS) scores compared to those in the IFT group (Group A) ($p < 0.05$). This indicates superior pain relief with medicated setons. This finding is consistent with previous research, such as the study by Gaertner et al. (2022), which also reported better pain management with medicated setons. The effectiveness of local medication in reducing inflammation likely contributes to the observed pain relief and increased patient comfort.

Weekly Tie Adjustments

The frequency of weekly tie adjustments was similar for both IFT and medicated setons ($p = 0.30$). This suggests that both methods are equally effective in maintaining fistula patency and drainage. This aligns with findings from other studies, such as those by Malik and Nelson (2008), which reported no significant differences in tie adjustment requirements between various fistula management techniques. The consistency in this aspect indicates that procedural maintenance is comparable between the two methods.

Cost

IFT was found to be more cost-effective initially, with lower upfront costs ($p < 0.05$). However, while IFT presents a lower initial cost, the medicated seton's higher durability and reduced recurrence rates may offer better long-term value. Thus, cost considerations should also account for potential long-term benefits and reduced need for re-interventions.

Durability

Medicated setons demonstrated lower durability. The medicated seton needs to be changed every 2 weeks while IFT must be changed every 4 weeks. Thus, durability along with cost should also account for potential long-term benefits.

Additional Findings

No significant differences were observed in age, gender distribution, or MRI findings between the two groups. This suggests that demographic and clinical baseline characteristics do not significantly influence the comparative outcomes of IFT and medicated setons. The notable difference in recurrence rates emphasizes the importance of considering long-term efficacy in treatment decisions.

CONCLUSIONS

In conclusion, the comparative study highlights that infant feeding tubes (IFT) offer initial cost advantages, durability, medicated setons provide superior pain management for treating complex high anorectal fistulas. Despite both methods requiring similar frequencies of tie adjustments, medicated setons demonstrate slightly lower recurrence rates which may justify their higher upfront cost when considering

long-term outcomes. The study underscores the importance of evaluating both immediate costs and potential long-term benefits when selecting a treatment approach. Additionally, the lack of significant differences in demographic and clinical baseline characteristics between the groups suggests that treatment choice should primarily be guided by factors such as pain relief, durability, and cost-effectiveness over the treatment period.

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