

## Study on Treatment of Sacrococcygeal Pilonidal Sinus By Limbergflap Versus Primary Closure At Bhagalpur

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### Abstract

Sacrococcygeal Pilonidal Sinus is an acquired chronic intermittent disease, usually seen in young adult especially males. This study was undertaken to compare the result of rhomboid excision followed by Limberg flap with that of excision and Primary closure in patient with Primary Pilonidal sinus. A total of 20 patients with Pilonidal sinus were divided randomly into group A who underwent excision and primary closure (n-10) and group B who underwent the rhomboid excision and Limberg flap Procedure (n-10). Length of hospital stay. Postoperative complication were fewer in group B. Two year follow up shows no recurrence in group B but 1 patient developed recurrence in group A. Limberg flap procedure for sacrococcygeal pilonidal sinus is better than simple excision and primary closure, in terms of post-operative pain, infection rates, and early return to work with almost nil recurrences.

**Keywords:** Pilonidal sinus, simple closure, Limberg flap

### Introduction

Sacrococcygeal Pilonidal sinus is a chronic intermittent disease usually of adult age group especially male, causing significant morbidity. It is essentially a cleavage between the buttocks (i.e. natal cleft), and diagnosis is made by identifying the epithelialized follicle opening (i.e. sinus). As far as etiology is concerned, a widely

acceptable view is that they are caused by local trauma, poor hygiene, excessive hairiness and presence of deep natal cleft<sup>[1]</sup>. Karydakis proposed three main factors causing the disease, namely high quantity of hair, extreme force and vulnerability to infection<sup>[2]</sup>. For more than hundred years, surgeons have been treating this disease by various treatment modalities, including simple incision and drainage, lying open marsupialization, excision and primary closure, a rhomboid excision with Limberg flap procedure<sup>[3]</sup>. There have been many studies reporting a recurrence rate of 7%-42% following excision and primary closure<sup>[4]</sup>. Limberg rhomboid flap for sacrococcygeal pilonidal sinus was designed by Limberg in 1946<sup>[5]</sup> who described a technique for closing a 60° rhombus-shaped defect with a transposition flap.

Literature study showed that Limber flap reconstruction following rhomboid excision of the sinus area was superior to primary closure<sup>[6]</sup> and other flap procedures<sup>[7]</sup> and a safe and reliable method in sacrococcygeal pilonidal sinus disease with low complication and recurrence rate.

### Patients and Methods

The study was conducted between year 2011 and 2015, at JLMNCH Bhagalpur whereby 20 patients with pilonidal sinus in the sacrococcygeal area were seen and included in the study. Patients randomly divided into two groups, group A with excision and primary closure (n-10), group

B with Limberg flap procedure (n-10). All patients operated under spinal anaesthesia. Methylene Blue dye used to stain sinus tract. The debridement was adequate and complete in both the group and further there was no difficulty in primary closure. Suction drain was routinely used in both groups. In group A, a vertical elliptic incision was made and lesion excised after reaching sacrococcygeal fascia and wound closed primarily. In group B, a rhomboid-shaped incision was made with each side equal in length around the mouth of the sinus, The incision deepened and lesion excised. The rhomboid flap was then rotated from gluteal fascia to the excised area, without tension using interrupted suture, skin and subcutaneous tissue sutured. Skin suture removed on 10th Post-operative day. Length of hospital stay, duration of inability to work, post-operative infection, wound dehiscence, and post-operative recurrence were noted. The patient was regularly followed up for a period of 2 years.

**Result**

There was no significant difference between the two groups with respect to age and sex.

The operating time was longer in group B. Morbidity in 3 patients in group A (infection in 2 patients, wound dehiscence in 1 patient). The duration of hospital stay was longer in group A. The median of duration of inability to work was 20 days in group A and 9 days in group B. recurrence was detected in 1 patient in group A. No recurrence in group B.

**Discussion**

The treatment for sacrococcygeal pilonidal sinus aims to provide cure but with a low rate of complication and recurrence and further to avoid prolonged hospitalization and ensure early return to work [4]

Although in the present study the operation time was longer in Limberg flap group, the hospital stay, inability to

return to work, wound related complication and disease recurrence were significantly less compared to primary closure group.

The aim of this study was to compare Limberg flap procedure and the primary closure in the treatment of sacrococcygeal pilonidal sinus.

Table - Comparison of Procedure outcome

	Group A	Group B
Operation time(min)	50	75
Total hospital stay (days)	5	
Wound infection	2	0
Dehiscence of wound	1	0
Duration of inability to work (days)	20	9
Recurrence	1	0

**Conclusion**

Rhomboid excision and Limberg flap closure is preferable to simple excision and primary closure in the treatment for sacrococcygeal pilonidal sinus, other advantage of Limberg flap closure are quick healing time, short hospital stay and early return to daily life.

These findings were comparable with the study by Akca et al [4]. Akin et al studies the records of 411 patients with the pilonidal sinus disease, who underwent rhomboid excision and Limberg flap procedure is effective and has a low complication rate, short time for returning to normal activity and short hospitalization [8]. wound infection and dehiscence were observed in 2 and 1 patient respectively in group A but none in group B. None of the patient in the Limberg flap group had a recurrence.

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