

An Experience with Limberg Flap Reconstruction for Pilonidal Sinus Disease

Dr. Binoy Kumar*

Associate Professor, Deptt. of Surgery, P.M.C.H., Patna, Bihar, India

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***Corresponding author**

Dr. Binoy Kumar

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Abstract: A total of 32 patients with pilonidal sinus disease were treated with rhomboid excision and Limberg Flap reconstruction. It was found to be very effective and was associated with few complications and low recurrence rates.

Keywords: Pilonidal sinus, rhomboid excision, Limberg Flap reconstruction.

INTRODUCTION

Pilonidal sinus disease is a common surgical problem associated with significant morbidity. Unfortunately, its management is still controversial and Gold Standard is yet to be agreed upon. There has been a continuing debate regarding the ideal treatment for pilonidal sinus diseases since long. The ideal therapy should certainly be simple to perform, with low recurrence rate, minimal postoperative pain and discomfort, limited wound care, short postoperative hospital stay, early return to activity. It must also be cost effective and tailored to the individual patient and extent of the disease.

MATERIALS AND METHODS

This prospective study was conducted from July 2016 to Jul 2017 at Patna Medical College and Hospital, Patna. It included 32 patients of Pilonidal Sinus disease treated by sinus excision and reconstruction by Limberg Flap. Surgery was performed under general or regional anaesthesia in prone jack knife position with buttocks strapped wide apart with adhesive tapes.

Methylene blue with one or two drops of hydrogen peroxide was injected in the sinus to outline the cavity and all the outpocketings. The area to be excised was marked as a rhomboid including all sinuses, transverse diagonal line was extended and from a point equal to it a line was drawn parallel and equal to lower lateral side of the rhomboid and flap lines were marked on the skin.

The rhomboid shaped incision was deepened to include pre sacral fascia centrally and gluteal fascia laterally. The whole sinus tract along with the cavity, as delineated with methylene blue, was excised en block. Then Limberg Flap was dissected by extending the incision laterally, as marked earlier, down to the fascia of gluteus maximus muscle. This fascio cutaneous flap was transposed medially to cover the rhomboid defect resulting from excision of the sinus. This must be done easily without tension. Haemostasis secured and a closed suction drain was also placed. Subcutaneous tissue was approximated with interrupted 2-0 vicryl sutures and skin closed with 2-0 ethilon sutures. A compression bandage was applied. Post operatively i.v. antibiotics are given for 3 days and drain removed after 48 hours. Alternate sutures were removed on 8-10 post

op. day and all sutures removed by 12-14 day. Patients were advised to avoid prolonged sitting or exercise for 3 weeks and to remove local hairs either by shaving or by hair removal cream regularly for atleast 1 month. Patients were followed up in OPD monthly for atleast 6 months.

RESULTS

The study consisted of 24 males (75%) and 8 females (25%), with a mean age of 36 years (range 21–50 years). Mean operative time was about 48 minutes (range 42-55 minutes). 18 patients (56.3 %) presented with discharge, 12 (37.5%) presented with pain, 4 (12.5%) with infection and 2 (6.3%) with pilonidal abscess. Pain score, as calculated by Visual Analogue Scale (VAS), has a mean of 3.29 (range 3-5). The mean length of hospital stay was 4.2 days (range 4 – 6 days) and most patients returned to work by the end of 3 weeks. Four patients (12.5%) developed mild infection which was treated with antibiotics. One patient (3.1%) developed necrosis at the tip of the flap. None of the patients developed recurrence till 6 months of follow up.

DISCUSSION

Pilonidal sinus affects young adults with considerable discomfort and morbidity because of its site and recurrence. Many surgical modalities are in vogue which itself reflects the need for a safe and efficient method of treatment. Recurrence is the main problem which may range upto 21.4 to 100 % for simple incision and drainage, 5.5 to 33% for excision and open packing, 8% for excision and marsupialisation and 3.3 to 11% for excision and different types of Z plasties. Flap techniques have been found by most

authors to have much lower rate of complications and recurrence.

In the present study, 32 patients with pilonidal sinus disease were treated with rhomboid excision and Limberg flap reconstruction. The flaps were approximated without tension. The natal cleft is flattened and at the same time midline dead space and scar is avoided. Recurrence was noted in none of the patients till 6 months of follow up. Several studies have been reported and our results are also comparable with them in terms of hospital stay, complication and recurrence rates (Table 1).

Table-1: (Comparison of results with other workers)

Author	No. of Patients	Hospital stay (days)	Complications (%)	Recurrence (%)
Akin <i>et al.</i> [1]	411	3.2	15.75	2.91
Mentes <i>et al.</i> [2]	238	2-3	2	1.26
Aslam <i>et al.</i> [3]	110	3.0	5	1
Jethwani <i>et al.</i> [4]	67	2-3	11.94	1.49
Urhan <i>et al.</i> [5]	102	3.7	7	4.9
Katsoulis <i>et al.</i> [6]	25	4.0	16	-
Present study	32	4.2	15.6	-

CONCLUSION

The rhomboid excision and Limberg flap reconstruction is an effective procedure for pilonidal sinus disease with low complication and recurrence rates, short hospital stay, early healing and early return to work. On the same time the technique is easy can be mastered easily.

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