



Comparative study between Limberg flap and local rotation flap for pilonidal sinus, as a new modified technique

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Introduction

Pilonidal sinuses often affect younger patients, usually occurring in the sacral area.

The etiology and pathogenesis of PS is frequently associated with both congenital and acquired factors.

The incidence rate is reported to be 26 per 100 000 population.

They occur more frequently in young males, rarely occurring before puberty or after the age of 40 years

treatment

ranging from conservative nonsurgical treatments to surgery

Surgical treatment methods include curettage after fistulotomy, leaving an open or marsupialized wound after excision of sinus, Bascom surgery, primary excision and closure, the Karydakis flap procedure, or sinus excision and skin graft and flap methods such as Limberg flap rotation

An ideal surgical procedure should be

simple,

Not require long hospital stays,

have low recurrence rate.

it must be associated with minimum wound care,
should help the patient to return to his work as early as possible.

Predisposing factors of recurrence

- Excessive Hair in the back of the patient,
- long period of sitting down
- Infection post operative
- Gapped wound
- Incomplete excision of the tract

The first step in the surgical treatment is wide radical excision of the affected tissue.

In patients with extensive disease, The volume of tissue to be excised will be greater, because it is necessary to remove all branches of the sinus tract.

The relationship between flap and site of defect must be nearly equal to close the defect without tension and avoid occurrence of any gapped wound or infection.



Aim of the work

In this study, we tried to assess new local rotation flap to close the defect and assess its feasibility, simplicity, and its outcome from point of recurrence, infection, or incidence of gapped wound in comparison with Limberg flap

Patients and methods

This prospective study was conducted at Al-Azhar University Hospitals, from April 2015 to July 2018.

It involved 80 patients with pilonidal disease, who were randomized into two groups:

- (1) Group A included 40 patients who underwent Limberg flap.
- (2) Group B included 40 patients who underwent local rotation flap.

Inclusion criteria

All cases with primary PS with no contraindication for anesthesia were included.

Exclusion criteria

Recurrent cases of PS were excluded

Surgical procedure

all patients were operated on under spinal anesthesia in the operating room

The patients were placed in the prone position, with the buttocks strapped apart using wide adhesive tape.

Methylene blue was injected into the sinus tract using a blue cannula.

The excision was carried down to the fascia overlying the sacrum and laterally to the fascia of the gluteus maximus muscle.

Dissection of the tract was performed with electrocautery, but surgical blade was used for the flap dissection to prevent flap necrosis and minimize seroma formation.

In group A, a rhomboid (Limberg) flap was prepared from right gluteal region



In group B, a local rotation flap, which is a semicircular flap, was prepared also from right gluteal region





Two weeks after operation



Table (1): Demographic data was reported in this table

		Group A	Group B	p- value significance
Age		18 to 40 mean 23 ± 3	17 to 38 mean 25 ± 2	NS
Sex	Male:	30	26	NS
	Female:	10	14	NS
Co-morbidity		8 patients	6 patients	NS
side branch		26	30	NS

Table (2): Post-operative complication demonstrated in the following table

	Group A	Group B	p- value significance
Wound infection	No	No	NS
Wound dehiscence	2	0	S
Flap necrosis	1	0	NS
Wound seroma	2	6	S

Table (3): Late post-operative complication:

	Group A	Group B	p- value significance
Cosmetic appearance	Not Accepted to 8 patients	Accepted to all	S
Numbness over flap	No	No	NS
Recurrence	1	No	NS

Review of literature.....

- **Foss** reported a collective series of 1,129 pilonidal sinus patients treated with excision and primary closure by different investigators. The failure rate of primary healing was 16%,

Several flap techniques have been described with recurrence rates ranging between zero and 6-8%

- Incidence of recurrence has relation to volume of excised part as reported by **Alptekin *et al.***

we did rotation flap so there is no any tension on the wound. This explains why there was no any case report that had wound dehiscence in group B.

The idea of local rotation flap, was taken from use of large rotation gluteal flap to cover large area of bedsore.

Therefore, we used small rotation flap in comparison to that of bedsore, which gave us good choice for wide local excision of the sinuses and its side branches with no fear from coverage area

- In this technique, we did good excision so incidence of recurrence was zero in this study
- . However, a long-term follow up is needed for good assessment if there is any recurrence at long run or not.

conclusion

- This study favored the local rotation flap for sacrococcygeal pilonidal sinus, especially for complex sinuses, and found it suitable for all cases as it was simple, safe, easy done and low complicaton