

Cleft lift surgery is turning out to be a gold standard treatment for pilonidal sinus disease

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Abstract

Background: Bascom's Cleft lift procedure for the Pilonidal disease of Natal cleft is a procedure which eliminates the aetiology, that is the depth of cleft.

Methods: This is a study of 63 patients who were treated with Bascom's cleft lift procedure from 2012 to 2016. In this procedure skin flap was raised, sinus tracts opened and the flap was transferred to opposite side thus raising the cleft.

Results: Majority of patients healed with no further surgical intervention required (97%) and only a few suffered superficial wound infection leading to secondary healing (3%).

Conclusion: The Bascom's Cleft lift procedure is highly recommended for treatment of primary disease with midline and lateral clefts. It is also highly recommended for recurrent disease.

Keywords: Pilonidal; cleft; abscess; sinus; Seroma; recurrence

Introduction

The Pilonidal sinus disease of Natal cleft is a difficult disease to treat for a surgeon due to its high recurrence rates. It is distressing for the patients, doctors, staff and family also due to follow up every week to know the condition of the wound moreover it is more distressing for the patients who have to go for daily dressing and blood/pus-soaked clothes. In general, these patients are unhappy and stressed.

There are many procedures for chronic Pilonidal Sinus disease from surgical excision only to primary repairs with rotational flaps even skin grafting, but none are satisfactorily the best, so-called the gold standard procedure and without complications. Almost all have controversies surrounding them. Several off midline procedures and cleft lift with modifications are also used in pursuit of the final procedure.

The etiopathogenesis of Pilonidal disease was simplified by Dr John Bascom pointing towards it to be an acquired pathology and is accepted by most in the medical fraternity.^[1,2] Dr Bascom made some

improvements to the Karydakakis procedure^[3] and expanded his work in the understanding of the disease. He concluded that depth of the cleft is the cause of disease which provides an anaerobic atmosphere for the microorganisms to grow if there is no cleft the disease will have less chance to recur. The distention of follicles due to keratin causes microabscesses to form in the epithelial tubes. The opening in the skin added by the depth of cleft and pressure phenomenon due to opening and closing of clefts while different postures of the body cause hairs to migrate into these epithelial tubes and promote acute abscess. These abscesses rupture and recur leading to chronicity of disease. This could be inferred from the pathophysiology that the depth of the clefts predisposes to this disease and also this is a disease of skin not of deeper structures.

Materials and methods

This is a retrospective study of a series of patients treated with a cleft lift procedure from 2012 to 2016.

In this series, 63 patients who were treated with Bascom's Cleft lift procedure were seen in Out-patients

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Dept. (OPD) referred from various Primary Health centres or emergency room. Patients with Pilonidal abscess were excluded in this series but were offered an option to return if disease recurred after drainage with curettage of the abscess. Some patients by their choice refused for the primary closure and wanted to keep the wound open for secondary healing, these patients were also excluded from the study.

Technique:

The technique described by Dr John Bascom^[4] was used with few modifications.

1. Pre-op antibiotics were given such as Cefalexin 1gm and Metronidazole 500mg before OR.
2. Surgery was done under general anaesthesia with or without local anaesthesia.
3. Patients were put in prone position with buttocks strapped apart.
4. Safety lines were marked preoperatively with the patient in a standing position and gluteal muscles fully contracted to compress the buttocks together.
5. Skin flap was raised from unaffected / least affected side (Figure 1).
6. Adhesive straps are removed completely from the patient's body.
7. The flap is crossed or overlapped to the opposite side and skin is marked on the opposite side (Figure 1).
8. The skin of the cleft up to the marked area is completely excised. The granulation tissue was removed by scraping with gauze on the finger. All the tracts are opened and scraped.
9. Efforts are made to save the underlying fat tissue and healed scar tissue which will be used for a cleft lift later on.
10. The healed fibrous tissue in the base was incised in multiple cubes to relieve the post-op pain of contractures.
11. Complete haemostasis was achieved. Individual bleeding points were controlled by electro-cautery or suture ligation.
12. The cavity is thoroughly washed with Hydrogen peroxide, saline and Povidon Iodine.
13. In 23 patients, size 14 French channel suction drain was kept and brought out through upper lateral part of the buttock where ever thought necessary (Figure 2).
14. The closure was done with 3-0 Vicryl interrupted sutures in multiple layers (minimum 3 layers) in all patients. The skin was closed with 3-0 Prolen sub-cuticular sutures with their entry and exit points away from the midline. Prolen was used because of its decreased inflammatory response with the tissues. Suture line was enforced with Steri-Strips.
15. The dressing was done using Tensoplast / Elastoplast.
16. Drain if kept was removed after 48-72hrs depending on the amount of drain.
17. The dressing was opened after 3 days postoperatively and sutures were removed after 10days in OPD (if non-absorbable sutures were used). Patients were asked to keep up with personal hygiene and take a daily bath.

The patients were advised to avoid sitting/squatting for 6-8wks, contact sports, driving for the next two weeks with review in the outpatient clinic after one month. Dressing was removed after 3 days. Upon reviewing after 1 month and if the wound was healing well, patients were advised to keep good personal hygiene. Patients were asked to return to outpatient clinic if there was any problem with the wound and were then followed up after 3 months. Telephone calls were made for follow up for recurrences or any residual symptoms.

Results

There were 63 patients treated with cleft lift procedure, the aim was to make wound away from midline and flatten the deep cleft. This will ensure that the aetiology of the disease is removed.

The success of the procedure is known in the first one month only. Out of 63 patients, 61 patients wound healed primarily without any further complications (Table 1).

Table 1. Surgical results of cleft lift surgery

Total patients with primary healing with no additional intervention.	63	100%
Immediate healing	58	92%
Seroma formation needing aspiration	3	5%
Superficial wound infection	2	3%

Mean follow up time was 2.39yrs and median 2yrs.

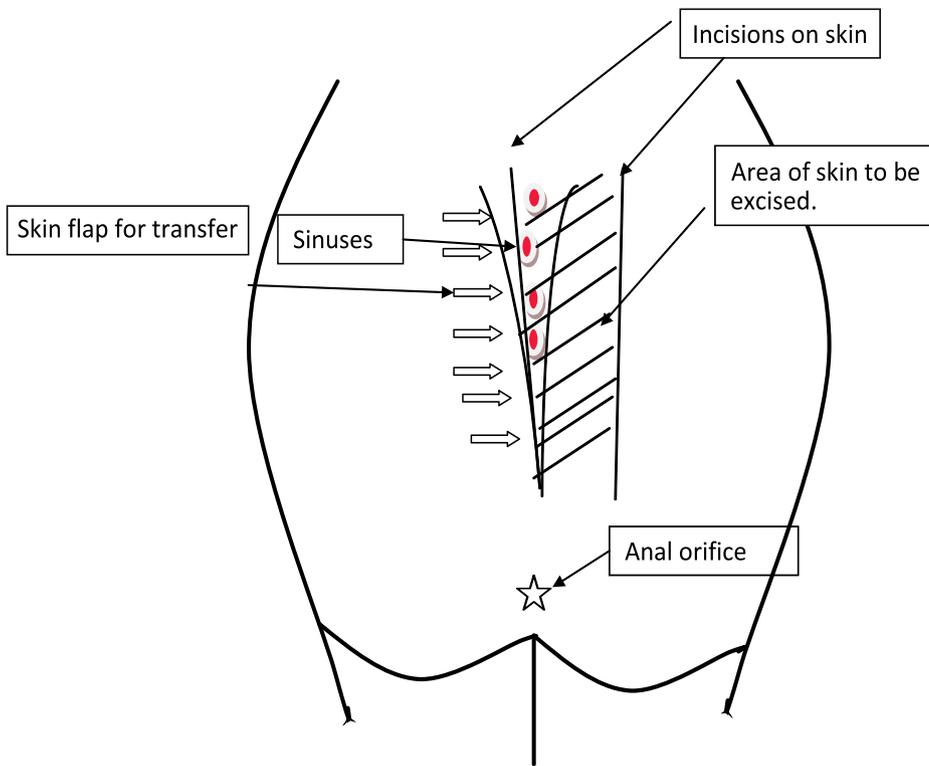


Figure No 1a



Figure 1b: Skin excisions

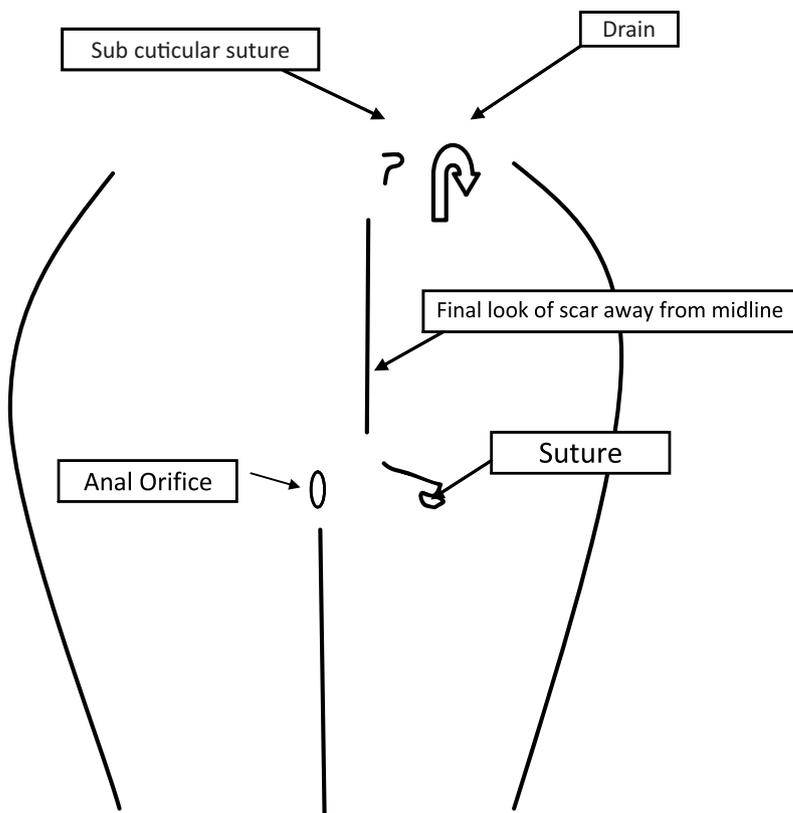


Figure -2a



Figure 2b. Post-operative scar

Discussion

The Pilonidal disease is a social, psychological and physical problem. Adults, teenagers having pus discharging sinuses in the lower back is cumbersome and embarrassing especially in this part of the world (Middle East) where people mostly wear white clothes, having pus tinged with blood on clothes is an embarrassment, leading to off days from work or school. All patients wanted to have a definitive procedure with minimal or no recurrences. Patients who refused to have a closed procedure and wanted open excision with secondary healing were excluded from the study.

Off mid-line procedures have shown lower rates of recurrences^[5,6] but still, they are not popular among general surgeons^[7], may be due to technical issues or operative time needed.

Our results showed excellent surgical results, 92% having immediate closure and more than 97% - closure with no recurrences. It far exceeds my own expectations. But there are few technical issues involved with this.

It is always difficult for a surgeon to take up a new procedure because he/she has to relearn everything, moreover to come out of the shell or defy their teacher's teachings. The learning curve for this procedure is significantly steep. As it is well said by someone "surgery is easy when there is no blood" in other words to show the procedure on paper and on the patient are two entirely different entities.

Technical issues: As with all other procedures, there are certain technical issues related to this procedure also. Among them, few are mentioned below-

1. How much skin to be removed?
2. What should be the thickness of the flap?
3. Technique near Anal region.

Skin to be removed is as shown by Dr. Bascom is not less not more. Less will make a cleft again and the basic aim of the procedure is compromised^[8,9]. More skin removed will cause the inability of the wound to approximate and post-op pain while sitting. The best way is to mark the cleft while the patient is standing and gluteal muscles contracted tightly. This is termed by Dr Bascom as safety line, one should not go beyond these safety lines. The second most important step is to pull the flap with skin hooks and bring to opposite side across the midline and check how far it comes across, and then mark the area of skin to be removed, but straps separating the buttocks should be removed completely off the skin.

Flap thickness should be as we take in breast reconstruction surgery approximately 5-8mm. When reaching near anal verge as is said "draw the curves to match the curves" use blunt dissection to separate the fibres of the skin.

There is no need to go to the sacral fascia, thick healed fibrous tissue should not be removed as it will help in lifting the cleft up. Small diamond shaped cuts should be made in the fibrous tissue to decrease postoperative pain. Sinus tract should be opened and scraped by gauze on finger (as it is just granulation tissue, it will peel off easily), followed by thorough washing. After ensuring all these finer details are over, good hemostasis is achieved, closure should start from the base after keeping a drain and at least 3 layers of sutures are required with 3-0 vicryl. Skin is closed with 3-0 prolene subcuticular sutures. Efforts should be made to keep entry and exit points of sutures away from the midline, not give any weak points in the midline. Suture line should be reinforced by Steri Strips. The dressing should be applied with Tensoplast/ Elastoplast (adhesive Crepe). Patients were advised to avoid driving, contact sports and prolonged sitting/squatting for 2 weeks.

Conclusion: Cleft lift procedure is safe, reliable and excellent operation as described by Dr John Bascom both as a primary procedure or with recurrent disease. Results of this procedure are almost uniformly successful. It is an excellent procedure considering, there is no specialized equipment required for this procedure and did not have major or significant complications leading to mortality or morbidity. The procedure is far more appealing and rewarding than of excision only, considering off days' work, hospital/PHC expenditure for dressing. Furthermore, excision only is frustrating for the doctor, patient and dressing room staff - Maybe we are heading towards a gold standard treatment for the pilonidal disease of natal cleft.

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