

Comparison of outcome of Bascom's Operation with Wide Excision and Leaving the Wound Open for treatment of Pilonidal Sinus

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Abstract

Introduction: Pilonidal sinus apparently minor condition may present to surgeon with major challenges like delayed wound healing and recurrence. Various treatments have been proposed to treat pilonidal sinus. The exact procedure for an individual patient will depend on surgeon's preference, the size and complexity of lesions and type of medical facilities, which are available. **Aims and objectives:** To compare the outcome of Bascom's Operation with Wide Excision and Leaving the Wound Open for treatment of Pilonidal Sinus. **Material and method:** In the present longitudinal study two groups were formed. First group was treated with Wide Excision and Leaving the Wound Open for treatment of Pilonidal Sinus and second treated by of Bascom's Operation technique. Each group was containing 15 cases. All the patients were followed up regularly. Details regarding duration of hospital stay following surgery, duration of wound healing and postoperative complication in both the study groups was recorded and compared for their statistical significance. **Results:** 15 patients underwent wide excision and leaving the wound open to granulate and 15 patients underwent Bascom's Technique Procedure. Duration of hospitalization following surgery in the open method was 6.07 ± 1.73 days while in Bascom's Technique Operation was 8.47 ± 1.89 days and the difference was statistically significant. Duration of wound healing following open method was 54.20 ± 3.89 days while in Bascom's Technique Procedure 25.60 ± 2.38 days and the difference was also statistically significant. No complications encountered in Bascom's Technique Procedure while there were 3 incidences of wound infection in the open technique. **Conclusion:** Thus by Virtue of shorter duration of wound healing and minimal complication we consider that Bascom's Technique Operation as our first choice of surgery for sacrococcygeal pilonidal Sinus as compared to wide excision.

Key Word: Bascom's Operation, Pilonidal Sinus.

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INTRODUCTION

Pilonidal sinus (Latin Pilus-Hair, Nidus-Nest), apparently minor condition may present to surgeon with major challenges like delayed wound healing and recurrence. The average amount of time lost from work as

a result of Pilonidal Sinus is 13 weeks.¹ One in four patients require further surgery.² The treatment of pilonidal sinus is influenced by pathogenesis of this condition; hence its natural history will be reviewed in light of details obtained from the study. Various treatments have been proposed to treat pilonidal sinus. Some authors opposed conservative management whereas according to some surgical method has better results. In conservative management Hodgkin W et al reported removal of hair from sinus with forceps and meticulous shaving of 3-4 cm surrounding skin with good ideal hygiene can give good result.³ Maurice and Greenwood⁴ in 1964 described a method of treating pilonidal sinuses by injecting them with phenol to destroy the epithelium of the track and sterilize the cavity in the hope that after extrusion of hairs the sinus would heal. An injection of 1-2ml of 80% phenol is given with great care taken to

protect patient's skin. The injection can be repeated every 4 to 6 weeks as necessary. In surgical management various operative techniques has been described. Such as Fistulotomy and Curettage,^{5,6} Marsupialization, Excision and Primary Closure, Excision and Skin Grafting, Cleft Closure,⁷ Flap Procedures Wide Excision and Leaving the Wound Open to Granulate and Bascom's Operation. In Wide Excision and Leaving the Wound Open to Granulate method, after hemostasis has been achieved, the wound is simply packed with gauze soaked in 2.5% Milton, soft paraffin gauze or other dressing. The subsequent management is as for in ordinary fistula wound with regular wound irrigations and dressing. Complete healing takes about 8-10 week with these techniques. The long period required for healing and the inconvenience of frequent dressings is the objections to this method. But it is far simpler and more reliable than any form of primary closure and probably because of the broad hairless scar that leads in the postanal region. In 1965 Lord and Millar advocated midline pit excision to treat pilonidal disease.⁸ Their premise was that pilonidal sinuses were foreign body sinuses with hair as the foreign body. If the hair is removed and free drainage is provided, the sinus will heal. They also felt that midline pits needed to be removed to allow the sinus to heal. Bascom expanded on this idea and felt that follicles of hair (not shafts of hair) were the source of pilonidal disease. He felt that midline hair follicles enlarge and become infected by forces exerted on to the midline gluteal cleft.⁹ Infection of the follicles leads to cysts and sinus tracts. Chronic abscesses were treated by excision of the midline follicles excising minimal healthy tissue. 1 to 10 follicles were removed; leaving wounds 2mm to 4mm in diameter. Another longer incision one finger breath lateral and parallel to the midline was made. This incision undermined the midline and gauze was pushed through the cavity to "Scrubout" hair and granulation tissue. In 1983, Bascom¹⁰, reported his results with mean time of complete healing as 3 weeks and 16% had some form of recurrence or non-healing. Mosquera and Quayle¹¹ in 1995 reported 7% recurrence at 10 months with this technique. Senapati¹² in 2000 reported recurrence rate requiring reoperation was 10%. The exact procedure for an individual patient will depend on surgeon's preference, the size and complexity of lesions and type of medical facilities, which are available.

AIMS AND OBJECTIVES

To compare the outcome of Bascom's Operation with Wide Excision and Leaving the Wound Open for treatment of Pilonidal Sinus

MATERIALS AND METHOD

The present longitudinal study was conducted at Victoria Hospital attached to Bangalore Medical College. The study was conducted for three years. Following inclusion and exclusion criteria was used to select the study patients.

Inclusion criteria

Patients of pilonidal sinus under the age of 15-45 years and no other co-existing illness forbidding therapeutic intervention.

Exclusion criteria

- Pediatric patients and those above 45 years.
- Patients with underlying osteomyelitis.

Thus total 30 patients were enrolled in the study duration. Detail history containing age, sex and occupation of the all the patients was noted in prestructured proforma. The main presenting symptoms were also noted. Routine general physical examination was done with special attention towards body hair distribution. On local examination site of the Pilonidal Sinus was confirmed, number of sinuses, presence of tenderness, discharge, any hair protruding from the sinuses and the condition of the surrounding area for indurations was examined. All patients also underwent digital rectal examination and proctoscopy. All the patients included in the study underwent following preoperative investigation in the form of Hb%, BT, CT, FBS, PPBS, Blood urea, Serum Creatinine, urine for albumin, sugar and microscopy, ECG and chest X-ray. All the patients included in the study underwent surgical management for sacrococcygeal Pilonidal Sinus. Fifteen patients underwent wide excision of the Pilonidal Sinus. The wound was left open to heal by secondary intention. Another fifteen underwent Bascoms technique operative procedure for Pilonidal Sinus. Patients were randomly allotted to the two surgically managed groups to prevent the bias. Thus we had 15 cases managed by wide excision group (WE group) and 15 cases managed by Bascom's technique (BT group). Details regarding duration of hospital stay following surgery, duration of wound healing and postoperative complication in both the study groups was recorded and compared for their statistical significance. After complete wound healing patients were advised to review once in two or three months for follow up. At follow up patient was examined for complete wound healing any sinuses or swelling or any discharge from the operative site. The statistical test performed was Student 't' tests and Fisher Exact test of Significance.

RESULTS

Table 1: Age and Sex wise distribution

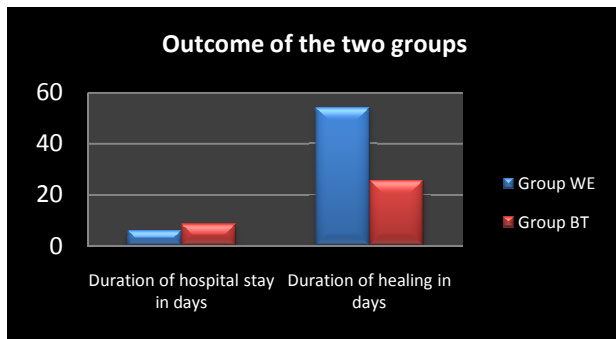
Variable	Group WE		Group BT		
	No	%	No	%	
Age in years	≤ 20	2	13.3	1	6.7
	21-25	8	53.3	6	40.0
	26-30	3	20.0	3	20.0
	>30	2	13.3	5	33.3
Sex	Male	10	66.7	11	73.3
	Female	5	33.3	4	26.7

It was observed that majority of patients were in age group of 20 to 30 years. Only 7 patients were above 30 years. Youngest patient in this group was 17 years and eldest was 44 years old. Mean age of presentation in wide excision group was 26.53 ± 7.24 whereas in Bascom technique group was 28.67 ± 8.47 . The difference in the age group was not statistically significant ($p=0.465$). In WE group and BT group male were the predominant population as compared to female.

Table 2: Outcome of the two groups

Outcome	Group WE (n=15)	Group BT (n=15)	p value
Duration of hospital stay in days	6.07 ± 1.73	8.47 ± 1.89	$<0.001^*$
Duration of healing in days	54.20 ± 3.84	25.60 ± 2.38	$<0.001^*$
Follow-up	5.13 ± 2.03	8.33 ± 4.56	0.019^*

* Significant



It was observed that duration of hospital stay in WE group (6.07 ± 1.73) was much less as compared to BT group (8.47 ± 1.89). The difference observed was statistically significant. It means duration of hospital stay was strongly significant less to group of patients undergoing Excision and leaving wound open to granulate. The mean Duration healing in WE group was 54.20 ± 3.84 days whereas in BT group mean duration of healing was 25.60 ± 2.38 days. The difference observed in the duration healing was also statistically significant. Thus it strongly signifies group BT had shorter wound healing period in comparison to WE. In respect to follow up of patients, p value was 0.019, which was significant in both groups.

Table 3: Comparison of Complications between two groups

Complications	Group WE (n=15)		Group BT (n=15)	
	No	%	No	%
Present	3	20	0	0
Absent	12	80	20	100

In our study there were no complications encountered in Bascom's Technique Procedure while there were 3 incidences of wound infection in the open technique. On statistically analysis the difference was found to be statistically insignificant

DISCUSSION

The age distribution showed that majority of the patients was less than 30 years of age. The mean age of presentation was 27.60 ± 7.82 years. Keighley MRB et al¹³ showed that Pilonidal disease was more common between 15-24 years of age and incidence decreases after age 25 years. It was rare after 45 years. According to Akinici et al¹⁴ the mean age of presentation was 22.1 years. Kooistra et al¹⁵ in his study found average age of presentation was 24.9 yrs. It was observed that Pilonidal sinus was predominantly a disease of young male. 70% patients in the study were male. In the study conducted by Guyuron Bet al¹⁶ 80% of patients were men, Akinici et al¹⁴ observed 94.6% males suffering from the disease whereas in study conducted by Kooistra et al¹⁵ 73.7% of patients were males. In the present study average duration of hospital stay for open technique was 5.13 ± 2.03 days and for Bascom's Technique operation was 8.33 ± 4.56 . When the values were analyzed statistically using Student "t" test for independent samples it was found that "p" value was 0.001 meaning that the duration of hospital stay with open technique was significantly less. The major reason for prolonged hospitalization in Bascom's Technique operation group was suture removal done after 8-10 days. As majority of our patients were poor and illiterates it was not possible to discharge the patients with sutures. In the study conducted by Kooistra et al²² the duration of hospital stay was 10.3 days. In our study with wide excision and leaving the wound open to granulate we found mean healing time to be 54.20 ± 3.84 days and recurrence yet to occur. However the mean duration of healing in BT group was 25.60 ± 2.38 days. Kooistra et al¹⁵ reported mean duration of healing in wide excision was 90 days whereas Bisset and Insbister⁵ reported 40 days in their study. It was seen that in patients treated by Bascom's Technique operation, mean healing time was 25.60 ± 2.38 days. No recurrences were reported

in the study. When the duration of wound healing of both our study groups were analyzed using Student “t” test for independent samples it was found that and “p” value was < 0.001. Therefore statistical analysis was highly significant healing time was shorter in the group of patients undergoing Bascom’s Technique operation compared to the group undergoing wide excision and leaving the wound open to granulate. In the present study, incidence of recurrence following surgery was nil in both the groups. Our mean follow up has been 6 months and maximum follow up is 1 yr 6 months. Therefore it was prudent to say that we need a longer follow up before we can conclude recurrence as nil. Many authors consider a follow up of at least 3 yrs postoperatively as adequate period to consider no recurrences. Also when the incidence of postoperative complications in our groups was analyzed using Fisher exact test of significance “p” value was found to be 0.224. Therefore the difference in complications between both the groups in our study was insignificant.

CONCLUSION

Thus by Virtue of shorter duration of wound healing and minimal complication we consider that Bascom’s Technique Operation as our first choice of surgery for sacrococcygeal pilonidal Sinus as compared to wide excision.

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