

## Research Article

### Management Options of Sacrococcygeal Pilonidal Disease

Zakariya Rashid<sup>1</sup>, Abdur Rashid<sup>2</sup>, Ghulam Mustafa<sup>3</sup>

<sup>1</sup>Assistant Professor, Aziz Fatima Medical College, Faisalabad, <sup>2</sup>Professor (R) Punjab Medical College, Faisalabad,

<sup>3</sup>Assistant Professor, Punjab Medical College, Faisalabad

#### Abstract

**Objective:** To Assess the outcome of different treatment options we used in our 310 Cases of Sacrococcygeal Pilonidal Disease in 12 Years.

**Methods:** Analytical case study. Total 310 Patients were divided in 4 groups according to the stage of disease. Ist group, sinuses with occasional discharge (110 Cases) had eccentric excision closed with advancing flap. (Karydakis Flap). 2nd group, limited disease with dried up occasionally bleeding track excised and closed under local anaesthesia (17 Case). Third group, very extensive, severe disease with multiple sinuses (161 cases). Treated with Limberg flap. 4th group of acute abscess treated with incision drainage and debridement, (22 Cases).

**Results:** Hospitalization period 3.5 days in all groups. Mean period for healing 3.8 weeks. Late recurrences after one year follow up were; In group 1, karydakis flap, 1.85%, Group 2, Local excision Nil, Group 3, Limbergs flap Nil, Group 4, incision drainage of abscess 18.3%.

**Conclusion:** For best results we need to define a staging system consistent with varied clinical presentation of the disease resulting in a stage specific treatment approach.

Received | 01-06-2018: Accepted | 20-08-2018

Corresponding Author | Dr. Zakariya Rashid, Assistant Professor, Aziz Fatima Medical College, Faisalabad

Email: zaki716@gmail.com

Keywords | Pilonidal, Sacrococcygeal, Abscess

#### Introduction

Sacrococcygeal Pilonidal Disease is a common disease of young age reaching a peak between 16-20 years continuing to mid twenties<sup>1</sup>. In 1880 Hodges associated it with hair (Pilus) forming a nest (nidus) resulting in unusual chronic infection of natal cleft<sup>2</sup>. It all starts with hair insertion in the depth of natal cleft<sup>3</sup>. There are several treatment options scientifically designed to meet the requirement of the particular stage of disease including the aggressive recurrent cases. With the increasing understanding of the pathology and choosing the right treatment the recurrences have come down and treatment period is shrinking and patients are going back to work early.<sup>4</sup>

The disease is rare in female.

At our medical centre we have treated a large number of cases in the last 12 years using different procedures we found most suitable for the stage of disease we were dealing. Objectives were to reduce complications, recurrences and put the patient back to work soon.

#### Methods

During the period of 12 years (April 2005 to march 2017) 310 cases of sacrococcygeal pilonidal diseases were treated by the same team. We included only those cases in study when one year follow up was available. 137 cases had recurrent disease already

operated at other centers. 173 cases presented 1st time. We categorized these cases according to the clinical presentation and grade of pathology. All patients had physical examination and routine investigations done. Special investigations like MRI was done selectively and it helped in diagnosing high fistulae in ano in 6 cases (not included in study). Group one with occasionally draining sinus and minimal infection had 110 cases. The diseased area including all tracks and sinuses was excised, thoroughly washed and brushed and closed eccentrically by mobilizing the flap from the opposite side in such a way that the natal cleft is flattened and scar is not in the centre (Karydakis Flap). The drain was left for 3 days, wound closed with subcuticular stitches. We allowed the patients to move about the next day and lie supine in bed expecting that weight will squeeze out the serum. We believe suction drains stop functioning soon unless we readjust them frequently. On 3rd day, mostly, the drain was removed and patient discharged instructed to keep the dressing dry and use tissue paper to keep the perineum clean after bowel movement. Good combination of antibiotics was advised and patients reported every third day for wound inspection. Sutures removed on 10th or 12th day.

The second group of patients had mostly recurrent sinuses with annoying discharge and moderate infection. Probably these were missed track during the previous operation or genuine recurrences because of niche resulting from rotating flap. The problem was local, limited and treated with excision under local anaesthesia and either stitched primarily or left to heal by secondary intention. They usually healed in 2-3 week while patients were ambulatory and at work. This category included 17 cases.

The third group had more severe, stubborn and extensive pathology with multiple sinuses and branched tracks. This group included a good member of recurrent cases. We excised the whole diseased area in the form of rhomboid deep down to the sacral fascia. The area is curetted and brushed well with pyodine and washed with saline. The flap (Limberg flap) was marked on the buttock preoperatively. This fasciocutaneous flap was dissected. It was exactly of the same angle and length of the rhomboid defect made by excision of pathology and was transposed into the defect without tension. Hemeostasis was secured, tube drain left in the depth of wound. The flap was stitched in two layers, & ubcutaneous tissue

approximated with interrupted 2 zero vicryl stitches and skin closed with subcuticular prolene stitches. Combination of antibiotics prescribed. Patients allowed to walk about and lie in the bed whatever position they liked.

Drain removed on 3rd or 4th day and patient discharged. He was seen again on 7th post operative day and dressed again. Sutures removed on 13th or 14th day. He was asked to take care of the area well and use loose clothes instead of tight jeans. This group was the largest and had 161 patients.

Last 4th group of patient (22 cases) presented with acute problem of abscess. The whole area was shaved and cleaned. Incision and drainage of abscess done, the track, the old scarred area, and necrosed tissue was excised, scrubbed with pyodine and washed well with copious amount of saline. It was packed with sterile dressing. Dressing was changed daily and once the wound started granulating the patient discharged with instruction to wash the wound twice a day with tap water, drip dry and covered with sterilized bulky dressing pads kept at place with the help of underwear.

Mostly they healed in 2-3 weeks with nice linear scar. This ambulatory management saved long hospitalization and patient was back to work while wound was taking its time to heal.

**Table 1:** Stage of Disease and Treatment Option.

Stage of Disease	No. of Case	Treatment
Group 1 Chronic Sinus with occasional discharge	110	Eccentric excision, covering with advancing flap (Karydakis).
Group 2 Local, recurrent sinus	17	Excision under local anaesthesia, Primary closure
Group 3 Extensive disease with multiple sinuses. Also recurrent, severe disease.	161	Rhomboid excision and covering with Limberg flap.
Group 4 Acute abscess	22	Incision, drainage, debridement and dressing.

**Table 2:** Results of Our Stage Specific Treatment.

Treatment Option	No of Cases	Wound Infection	Seroma	Bleeding	Wound Disruption	Late recurrences
Group 1	110	20	14	3	6	2
Karydakias flap		18.2%	12.7%	2.7%	5.4%	1.8%
Group 2	17	3	—	—	—	Nil
Local resection closure		17.6%				
Group 3	161	32	26	4	13	Nil
Limberg flap		19.66%	16.15%	2.5%	8.07%	
Group 4	22	—	—	—	—	4
Incision & drainage debridement						18.2%

## Results

In 310 cases we treated in twelve years only two were female. No patient was above 25 years of age. Mean hospitalization period was 4 days in all the 4 group but time taken to be free of disease was different in different groups. Results of our stage wise treatments are given in table 2. The recurrence rate of advancing flap and Limberg flap are quite low though we had our share of complications.

## Discussion

Sacrococcygeal pilonidal disease is common in the young age especially early twenties<sup>2,5</sup>. It is rare in female. Obesity, hairy back, deep natal cleft<sup>6</sup>, heredity, profession (long hours driving in hot, humid climate) and wearing tight jeans are the contributing factors<sup>7</sup>. In second world war it was nick named 'Jeep Drivers Disease,<sup>8</sup> but now according to our study it should be changed to 'Jeans Disease' because we found nearly 80% patients fond of wearing dirty jeans. Years were spent to prove it congenital in origin but it is now decided that separating a very small group of cases of congenital sinuses in great majority it is acquired<sup>1,5</sup>. Three main factors, presence of loose hair, some force causing their insertion and vulnerability of skin result in causing this special type of chronic infection<sup>1,5,9</sup>. There are probably several secondary factors like number of hair, soft or silky hair, depth or narrowness of natal cleft, friction movement between sides of cleft and softness and maceration of skin are contributing to the pathogenesis providing a favorable milieu<sup>1,5</sup>.

Treating this multi faceted pathology of different grades we have nearly failed to find one gold standard treatment option. We started with local excision and primary closure leaving a mid line scar or allowing it to heal by secondary intention. The recurrence rate

was unacceptably high<sup>10,11</sup>. Trying to achieve eccentric scar we changed to zig zag excision, Z plasties or N plasties with much better outcome.<sup>1,6</sup> Advancing flap with eccentric closure was proposed by Karydakias<sup>7</sup>. The procedure has very low recurrence<sup>1,6</sup> (1-2%) Pathology grade wise it has certain limitations and cannot be used for wide spread disease<sup>12,15</sup>.

Limberg designed a rotational flap after rhomboid excision of pathology<sup>9,13,14</sup>. It suits nearly every severe, extensive and recurrent case.<sup>16</sup> Recurrence rate is 0-2% although complications like seroma, infection, wound disruption are in the range of 20-25%.<sup>17</sup> The complication of flap necrosis is 2-3%. Most of the patients return to work within 2-3 weeks.

Less invasive procedure like local excision of limited disease for minor recurrences is recommended<sup>4</sup>, For abscess we should limit to incision drainage and debridement and leave the wound to heal by granulation<sup>18</sup>. Recurrence in this group is very high requiring second operation. In future we will be doing endoscopic sinus track extraction with quick relieve and short hospitalization.<sup>1,5</sup>

Use of fibrin glue has emerged as a potential therapy as both mono therapy and an adjunct to surgery<sup>19</sup>. It is still experimental. For limited disease procedure like laying open the short dry track, curetting or using phenol soaked probes can be performed in the outdoor.<sup>1,5,16</sup> Destruction of hair follicles by Nd YAG laser can prevent further inflammation progression and recurrence of disease.<sup>20</sup>

## Conclusion

Let us agree upon this suggestion that to achieve the ideal management of pilonidal sinus disease we need

to define a staging system consistent with the varied clinical presentation of the disease, resulting in a stage specific treatment approach.

**Ethical Approval:** Given

**Conflict of Interest:** None

**Funding Source:** None

## References

1. Kallis MP, Maloney C, Lipskar AM. Management of pilonidal disease. *Current opinion in pediatrics*. 2018 Jun 1;30(3):411-6.
2. Halleran DR, Onwuka AJ, Lawrence AE, Fischer BC, Deans KJ, Minneci PC. Laser Hair Depilation in the Treatment of Pilonidal Disease: A Systematic Review. *Surgical infections*. 2018 Aug 1;19(6):566-72.
3. Khan KJ, Gha ar A, Choudhry S, Irshad K. Comparison of Early Outcome between Modified Limberg and Karydakias Flap Procedures in Patients with Sacrococcygeal Pilonidal Sinus. *PAKISTAN JOURNAL OF MEDICAL & HEALTH SCIENCES*. 2016Apr 1;10(2):631-4.
4. Hardy EJ, Herrod PJ, Sian T, Boyd-Carson H, Blackwell JE, Lund JN, Quarmby JW. Fibrin glue obliteration is safe, effective and minimally invasive as first line treatment for pilonidal sinus disease in children. *Journal of Pediatric Surgery*. 2018 Sep 8.
5. Bali , Aziret M, Sözen S, Emir S, Erdem H, Çetinküner S, rkörücü O. Effectiveness of Limberg and Karydakias flap in recurrent pilonidal sinus disease. *Clinics*. 2015 May;70(5):350-5.
6. Segre D, Pozzo M, Perinotti R, Roche B. The treatment of pilonidal disease: guidelines of the Italian Society of Colorectal Surgery (SICCR). *Techniques in coloproctology*. 2015 Oct 1;19(10):607-13.
7. Pappas AF, Christodoulou DK. A new minimally invasive treatment of pilonidal sinus disease with the use of diode laser—A prospective large series of patients. *Colorectal Disease*. 2018 Jun 7.
8. Doll D, Luedi MM, Wysocki AP. Pilonidal sinus disease guidelines: a minefield?. *Techniques in coloproctology*. 2016Apr 1;20(4):263.
9. Aslam MN, Shoaib S, chaudhery AM. Use of Limberg flap for pilonidal sinus – a viable option. *J Ayub med Col Abbott abad* 2009;21(4) : 31-3
10. Onder A, Girgin S, kapan M, Toker M, Arik angolu Z, Palanei y,et al. Pilonidal sinus disease : risk factors for post operative complications and recurrences. *IN T Surg* 2012 ; 97 (3) : 224-29
11. Lasalniek I, Furst A, Rentesch M, Lauch Kw. Primary midline closure after excision of pilonidal sinus is associated with a high recurrence rate. *Chirurg* 2003; 74(5) : 461-68
12. Aydede H, Erhan y, Sakarya A, Kum Kum oglu Y. Comparison of three methods in surgical treatment of pilonidal disease. *AN Z J Surg* 2001 ; 77 : 362-64
13. Käser SA, Zenga nen R, Uhlmann M, Glaser C, Maurer CA. Primary wound closure with a Limberg flap vs. secondary wound healing after excision of a pilonidal sinus: a multicentre randomised controlled study. *International journal of colorectal disease*. 2015 Jan 1;30(1):97-103.
14. Prassas D, Rolfs TM, Schumacher FJ, Krieg A. Karydakias flap reconstruction versus Limberg flap transposition for pilonidal sinus disease: a meta-analysis of randomized controlled trials. *Langenbeck's archives of surgery*. 2018 Jul 31:1-8.
15. Bali , Aziret M, Sözen S, Emir S, Erdem H, Çetinküner S, rkörücü O. Effectiveness of Limberg and Karydakias flap in recurrent pilonidal sinus disease. *Clinics*. 2015 May;70(5):350-5.
16. Bayhan Z, Zeren S, Duzgun SA, Ucar BI, Alparslan yumun, Mestan M. Crystallized phenol application and modified limberg flap procedure in the treatment of pilonidal sinus disease. A comparative retrospective study. *Asian J Surg* 2016; 39:172-177.
17. Galan N, Akin M, Gokbayir H. Rhomboid excision and Limberg flap for managing pilonidal sinus. *Diseases of the colon & rectum*. 2015;10(9):945-8.
18. Persaud R, Elliott JA, Goodman L, Somayaji R, Lim M, Sibbald RG. Hidradenitis suppurativa: A retrospective review of 13 patients and literature summary. *DERMATOLOGY*. 2017 Nov.
19. Isik A, Eryilmaz R, Okan I, Dasiran F, Firat D, idizo, sahin M. Use of fibrin glue without surgery in treatment of pilonidal sinus disease. *INT J clin Exp Med* 2014 ; 7 : 1047-105,
20. Badaway EA, Kanawate MN. Effects of hair removed by Nd : YAG laser on the recurrence of pilonidal sinus. *JEUZ Acad Dermatol Venerol* 2009; 23(8) : 883-6