

PILONIDAL SINUS: FOLLOWING THE ARISTOTELIAN MIDDLE!

Sheeraz Shakoor Siddiqui¹, Mehmood Ahmed Khan²

ABSTRACT

Objective: Pilonidal sinus of the sacrococcygeal region is a fairly common malady. Many surgical and non-surgical methods have thus far been described with variable success rates. No standard operation is in practice, owing to discouraging rates of recurrence. A simple excision and primary repair is described with fairly good results.

Methodology: Thirty two patients with this condition were operated upon by the author between January 2003 and December 2007. A simple excision and primary repair were undertaken in all. Their retrospective data were tabulated from the respective files and analysed.

Results: Mean follow-up period was 11.7 months (range, 6-24 months). Only two patients had partial dehiscence of the suture line that responded to conservative management. There was no full-fledged recurrence in the duration of follow-up.

Conclusion: Simple excision and primary closure is a straightforward procedure with good results. A meticulous technique, including follow-up advice (hygiene, depilation etc.) can have a beneficial effect on post-operative outcomes.

KEY WORDS: Pilonidal sinus, Simple excision, Primary repair.

Pak J Med Sci October - December 2008 (Part-II) Vol. 24 No. 6 845-848

How to cite this article:

Siddiqui SS, Khan MA. Pilonidal sinus: Following the aristotelian middle! Pak J Med Sci 2008;24(6): 845-48.

INTRODUCTION

Pilonidal sinus is a name synonymous with discrepancy: the simplicity of presentation is in marked contrast to the frustrations surrounding its management. No failure-proof opera-

tion has yet been devised.¹ The 'proposed' pathogenesis is somewhat of an enigma, having evolved from that supporting a "congenital" origin² to the now widely popular Boscom's cascade.³ Indeed, such confusions surrounding the very pathophysiology might indirectly contribute to most treatment failures. And yet, the latter hypothesis is probably the best explanation available of the mechanism by which the sinus establishes its roots, with the critical step being 'rupture of the infected follicle into the underlying fat'.¹

Although relatively rare, with a reported incidence of 26 per 100,000, the disease mostly targets the young productive members of the society.¹ The famous description of a pilonidal habitus being 'a robust, fat, plethoric male with a narrow pelvis'.⁴ Rarely fatal, the disease nevertheless is unpleasant and claims a sizable proportion of man-hours.

1. Sheeraz Shakoor Siddiqui, FCPS.

Assistant Professor,

2. Mehmood Ahmed Khan, FCPS.

Registrar,

1-2: Surgical Unit IV,

Civil Hospital Karachi,

Dow University of Health Sciences,

Karachi - Pakistan.

Correspondence

Sheeraz Shakoor Siddiqui, FCPS.

Res: 155/II, Main Khayaban-E-Haafiz,

DHA Phase VI,

Karachi - Pakistan.

E-Mail: drss_16@hotmail.com

* Received for Publication: May 10, 2008

* Accepted: October 7, 2008

With reported recurrence as high as 21%,⁵ pilonidal disease has challenged the surgeons' acumen, prompting a "proliferation of procedures".¹ The choice for a 'standard operation' has been further confounded by the spectrum of presentation viz. acute, chronic and recurrent.³ Relatively conservative approaches like sinotomy⁶ and incision and drainage⁷ stand in marked contrast to such complex undertakings as the Karydakias flap⁸ and Z-plasty.⁹ Advancements in biotechnology have led to experimentations with fibrin glue¹⁰ and lasers.¹¹ None have been able to dodge the curse of wound failure and recurrence. This manuscript is based on the audit of a 'standard operation' performed by the authors for all types of sacro-coccygeal pilonidal sinus.

METHODOLOGY

Thirty two (n=32) patients with sacrococcygeal pilonidal sinus were operated upon between January 2003 and December 2007. The subjects were clerked at one Government-sector and three private hospitals in Karachi and operations were carried out electively at the respective facilities. Follow-ups were conducted at the outpatient clinics of the same centers.

All patients were admitted on the day of surgery. A baseline hemoglobin and fitness for general anesthesia were taken, as was the informed consent. The lower back, from the first lumbar vertebra to both buttocks, was neatly shaved two hours prior to surgery. A standard procedure was followed in all, as outlined in the following paragraph:

After induction, the patient was placed prone with heavy pillows/rolls under lower chest and upper thighs. The buttocks were separated as wide as possible and held as such using zinc oxide tape on either side. This brought the whole sacrococcygeal region in full view. After Pyodine paint and draping of the shaved area, all the visible pits in sacrococcygeal region were injected with 1% methylene blue dye using a 23 gauge needle, the beveled end of which had been cut to avoid inadvertent punctures. An elliptical skin incision surrounding the diseased area was given, running vertically

with a maximum breadth of 3 to 5cm. Using electrocautery, the incision was gradually deepened. If a tract was erroneously laid open, as indicated by dye spillage, visible tuft of hair or granulation tissue, the wound was laterally undermined at the site for 0.5 to 1.0cm. At a depth of 2-3cms, the diathermy blade was angled towards the midline, fashioning a wedge-excision of fibrofatty tissue with all the diseased part within. The deep limit of the wound was the post-sacral deep fascia, clearly visible in the base after excision. The crater was lavaged with hydrogen peroxide, followed by 0.9% saline. After securing the hemostasis, a 12 Fr. vacuum drain was left in the cavity, brought out at the side by a separate stab incision. At this stage the zinc oxide tension tapes were released, bringing the edges of the wound fairly close together. Using polypropylene No. 1 suture, primary closure was affected using vertical mattress technique. Each suture penetrated the whole depth of the wound, and also incorporated the fascia at the base. Care was taken to avoid the drain tube in the process. The wound was dressed using heavy gauze pads.

All patients were administered intravenous Clindamycin with a therapeutic intent (first dose ½ hour prior to surgery followed by oral form for 5 days). Intravenous analgesia was given the first night (Nalbufine @5mg. /dose) followed by oral ketorolac (50 mg. PRN). With the advice to use a soft cushion under the coccyx while sitting, all patients were discharged on the next day.

Wound was examined on the 5th post-operative day, at which time the drain was removed, subject to the amount of effluent. Sutures were removed on the 11th post-operative day. Successive follow-ups were undertaken at six-month intervals.

RESULTS

There were 24 males and 8 females (male to female ratio, 3:1). The average age was 28 years (range 17-44 years). Only ten patients (31.2%) were obese by definition i.e. more than 10% Ideal Body weight. Subjectively, almost all had

a greater or lesser degree of hirsutism, with especially florid hair growth in the sacrococcygeal region.

Disease Spectrum: Majority of patients had the chronic form of disease (n=25, 78%). Two had recurrent sinuses while only one presented with an acute abscess without systemic manifestations. There were no associated co-morbidities.

Post-operative Course: No morbidity was encountered during hospitalization. At the time of drain removal, the mean fluid noted was 20 ml. (range, 10-40 mls.) which was serosanguinous in nature. At the visit for stitch removal, two patients (6.2%) had partial dehiscence limited to the lower margin of the wound. It was treated with daily dressings with Solcoceryl gel (calf blood hemodialysate); both patients showed good results.

Follow-up & Recurrence: At the time of stitch removal, all patients were advised to shave/wax their lower backs at least once a month, and maintain good hygiene i.e. soap and rub the lower back while taking bath. Mean follow-up period was 11.7 months (range 6-24 months). No recurrence was encountered at these follow-up clinics.

DISCUSSION

Excision and primary closure is not a new technique and has been attempted by several surgeons.^{6,12,13} However, the techniques differ in some minute respects. A proper standardized technique, with attention to detail, might entail the solution to many an enigma, such as frustrating recurrence rates!

In one of the recent comparative reports, Ersoy et al.,¹³ have described highest complication and recurrence for primary closure among a variety of surgical procedures (marsupialisation, unroofing, primary closure and Limberg flap). The results of Rabie and colleagues,⁶ where they compare primary closure and sinotomy, also favor the latter in terms of recurrence and hospital stay.

Procedures that do not employ primary closure (sinotomy, unroofing etc) entail the

hassle of daily dressings and hygiene control. There is also at least a theoretical risk of re-implantation of hair in the immediate post-operative period. Although the obvious advantages are manifold (performance under local anesthesia, minimum destruction of tissues), the approach is probably best in acute cases¹ or where there is a minimum number of tracts and pits.¹⁴ Where the disease extends more laterally, and deeply, as it often does, a second definitive procedure is necessitated.¹⁵

The challenge of recurrence has provoked ingenious modalities.⁸⁻¹¹ Use of flaps is a major undertaking requiring long hospitalization and healing times.^{8,9,13} Ersoy¹³ has reported longest hospitalization with Limberg flap compared to other procedures. Nevertheless, a flap may be justified in large recurrent sinuses.¹

The technique used by the authors is neither too conservative nor too radical, conforming to the Aristotelian concept of 'staying in the middle grounds.' The essential components are: a 'geographical' excision as mapped by the blue dye; approaching the depth of deep fascia; a primary closure that includes the said fascia; and regular hair-removal in the post-operative period. The elliptical incision minimizes the risk of soiling, especially in the acute case.

A therapeutic use of antibiotics in a 'resectable infection' such as pilonidal sinus has been questioned time and again. Probably not very judicious, the only rationale is the remote and contaminated location of the sinus, seen in the backdrop of the depth of tissue excision effected. Nevertheless, a randomized controlled trial is probably in order here to answer the issue.

Most recurrences are encountered in the inferior part of the wound.¹ Although two patients had a partial wound failure at the site, none developed a recurrence. Apart from pure good luck, the results may also be attributable to the employment of a standard technique. A selection bias may also be involved, since all patients included in the audit were ideal for *any* procedure i.e. young, healthy and compliant, with no extreme form of the disease (e.g. multiple, acute or widely-spaced sinuses). In

addition, a mean follow-up of just less than a year is not sufficient enough to irrevocably claim a zero recurrence. Still, the procedure is probably ideal for all but the most extreme forms of sacrococcygeal sinuses.

REFERENCES

1. Sebastian MW. Pilonidal cysts and sinuses. In: Sabiston Jr DC (Ed) Textbook of surgery. 15th ed. 2 Bangalore, India: Prism Books Pvt. Ltd 1997;1330-3.
2. Hodges RM. Pilonidal sinus. *Boston Med Surg J* 1880;103:456.
3. Boscom J. Pilonidal sinus. In Sazio VW (Ed). Current therapy in colon and rectal surgery. Toronto; BC Decker; 1990.
4. Franckowiak JJ. The etiology of pilonidal sinus. Unpublished thesis, University of Minnesota, 1960.
5. Jensen SL, Harling H. Prognosis of simple incision and drainage for a first episode acute pilonidal abscess. *Br J Surg* 1980;75:60.
6. Rabie ME, Al Refeidi AA, Al Haizae A, Hilal S, Al Ajmi H, Al Amri AA. Sacrococcygeal pilonidal disease: sinotomy versus excisional surgery, a retrospective study. *ANZ J Surg* 2007;77:172-80.
7. Hurst DW. The evolution of management of pilonidal sinus disease. *Can J Surg* 1984;27:603.
8. Keshava A, Young CJ, Rickard MJ, Sinclair G. Karydakis flap repair for sacrococcygeal pilonidal sinus disease: How important is technique? *ANZ J Surg* 2007;77:181-3.
9. Fazeli MS, Adel MG, Lebaschi AH. Comparison of outcomes in Z-plasty and delayed healing by second intention of wound after excision of the sacral pilonidal sinus: results of a randomized clinical trial. *Dis Colon Rectum* 2006;49:1831-6.
10. Patti R, Angileri M, Migilore G, Sparancello M, Termine S, Crivello F, et al. Use of fibrin glue in the treatment of pilonidal sinus disease: a pilot study. *G Chir* 2006;27:331-4.
11. Sadick NS, Yee-Levin J. Laser and light treatment for pilonidal cyst. *Cutis* 2006;78:125-8.
12. Kronborg O, Christensen J, Zimmerman-Nielsen C. Chronic pilonidal disease: a randomized trial with a complete three year follow-up. *Br J Surg* 1985;72:303.
13. Ersoy OF, Karaca F, Kayaoglee HA, Ozkan N, Celik A, Ozum T. Comparison of different surgical options in the treatment of pilonidal disease: retrospective analysis of 175 patients. *Kaohsiung J Med Sci* 2007;23:67-70.
14. Karydakis GE. New approach to the problem of pilonidal sinus. *Lancet* 1973;2:1414.
15. Kement M, Oncel M, Kust N, Kapatanoglu L. Sinus excision for the treatment of limited chronic pilonidal disease: Results after a medium term follow-up. *Dis Colon Rectum* 2006;49:1758-62.