

Pilonidal disease simple pathogenesis but complex management

Mohammed Hassan MD¹, Ayman Refaat MD² Amr Aiad MD³, Wael L. Tobar MD⁴, Islam Gamal MD, MRCS⁵

Department of Surgery^{1,3,4,5}, Cairo University. Department of Surgery², Beni-Suef University

Abstract

Design: retrospective study

Patients & Methods: the study was conducted on 75 patients suffering PND with a male to female ratio 59 to 16 done between May 2004 to June 2007 with a follow up range 8-13 and a median of 10.7 months. Sixty four patients had sacrococcygeal disease, 9 patients had umbilical disease, and 1 patient had suprapubic while 1 patient had axillary disease. For sacrococcygeal disease Limberg operation was done in 26.5% (n=17), abscess drainage and curettage in 31.2% (n=20), Bascom operation in 23% (n=15) while conservative treatment in 31.2% (n=20). For umbilical disease, omphalectomy was done in all cases (n=9). Conservative treatment was done for suprapubic disease while excision followed by primary closure was done in axillary disease (n=1) after failure of conservation.

Aim: to evaluate different modalities in treating pilonidal disease (PND)

Results: For sacrococcygeal disease, patients who received Limberg procedure (n=17) showed complete resolution in 88.2% (n=15) with recurrence rate 11.8% (n=2). Those who received Bascom operation showed complete resolution after all procedures with no recurrence during the follow up period. Patients who received conservative treatment (n=20) showed a success rate of 70% (n=14) with recurrence rate of 30% (n=6) who received Bascom procedure later for their recurrence. For umbilical, suprapubic and axillary disease; omphalectomy, conservative treatment and excision with primary closure were used respectively with no complications encountered.

Conclusion: For sacrococcygeal disease, Bascom operation was found to be superior over other modalities with respect to smooth postoperative period and early healing while in umbilical disease conservation shows higher success rate.

Introduction

Pilonidal disease (PND) is a chronic infection of the skin which occurs as a sequence of an inflammatory reaction secondary to embedded hairs located commonly in the natal cleft, less commonly in umbilicus, suprapubic, axillary, interdigital spaces of the hand or rarely peri-areolar or in the prepuce.

The disease is more common among males with a peak age incidence between puberty and 40 years and is also more common in people with thick stiff type of hair (Hull and Wu, 2002).

The pathology of this condition is that of chronic inflammation with epithelialization of the pits extending not more than 2-3 mm from the surface below which chronic abscess cavity may widely ramify (Goligher *et al.*, 1992).

PND is a common problem due to the need for frequent and time consuming wound care in addition to high recurrence rates following surgery (Iesalniaks *et al.*, 2003)

Simple excision carries a higher incidence of wound complications and recurrence (42%). Many other alternatives as Bascom procedure, Limberg procedure, Karydak's procedure and their modifications showed superior results in many studies (Aydede *et al.*, 2001)

Patients and Methods

Between May 2004 and July 2007, 75 patients with PND treated at Cairo university hospital. According to the site of the disease we have patients with

Pilonidal disease simple pathogenesis but complex management

sacrococcygeal (n=64), umbilical (n=9), suprapubic (n=1) and axillary (n=1).

For the sacrococcygeal disease the male to female ratio was 51 to 13 and were treated as follows; Limberg operation was done for 17 patients; 15 of them were denovo and 2 patients received this operation after failure of healing following abscess drainage and curettage, all wounds were closed over 18F suction drains removed after seven days.

Drainage and curettage was done in 20 patients with complete healing achieved in 18 of them (90% success rate) while the remaining 2 patients required further intervention as mentioned earlier.

Bascom procedure was done in 15 cases, 9 of them were denovo and the remaining 6 received this procedure after failure of conservative measures to heal the area within 2 weeks.

Conservative treatment in the form of mini-surgery, shaving and alcohol application was offered to selected patients (minimal subcutaneous induration, no history of suppuration, not a recurrent disease) n= 20. Fourteen showed complete response while 6 did not, so further management was needed in the form of Bascom procedure.

Concerning other categories; umbilical cases (n=9) omphalectomy was done in one case and eight cases managed conservatively, suprapubic and axillary PND were treated conservatively. Suprapubic cases showed excellent response while the case of the axillary PND did not, hence, excision and primary closure was done.

Hospital stay varied from 1 to 4 days, after discharge the follow up visits were conducted every week for 1 month then every month for 1 year

Table (1) Patients demography & presentation

<i>Demography/clinical presentation</i>	<i>N</i>
Age	16-42
Male/Female	59/16
Pain	24
Discharge	63
Inflammation	20
Abscess	20



Bascom's procedure

Results

This study was conducted on 75 patients with pilonidal disease in different areas with male to female ratio 59:16, age range 16-42 and follows up ranging from 11 to 13 months with a median of 10.7 months. Sixty four patients had sacrococcygeal disease (85%), 9 patients had umbilical disease (12%), 1 patient had suprapubic disease (1.5%) and 1 patient had axillary disease (1.5%).

For sacrococcygeal disease Limberg operation showed 88% success rate, with recurrence rate of 12% (n=2) in the medial vertical limb within 4 months, and were

treated by refreshment of the edges followed by secondary closure. Bascom operation showed a success rate of 100% of cases with no wound related complications, and recurrence recorded during the follow up period, while drainage and curettage have a success rate of 90% with 10% (n=2) failure rate, that required re-intervention for which Limberg operation were offered, lastly, conservative treatment was used in selected cases and resulted in 70% success rate (n=14) , while 6 patients showed no response and underwent Bascom operation with success rate of 100%.

Pilonidal disease simple pathogenesis but complex management

For umbilical PND omphalectomy offered complete healing in one case and conservative management offered cure in other patients (n=8), while suprapubic and axillary PND were treated initially by

conservative measures which failed to heal the axillary disease and needed further excision and primary closure with complete healing during the follow up period.

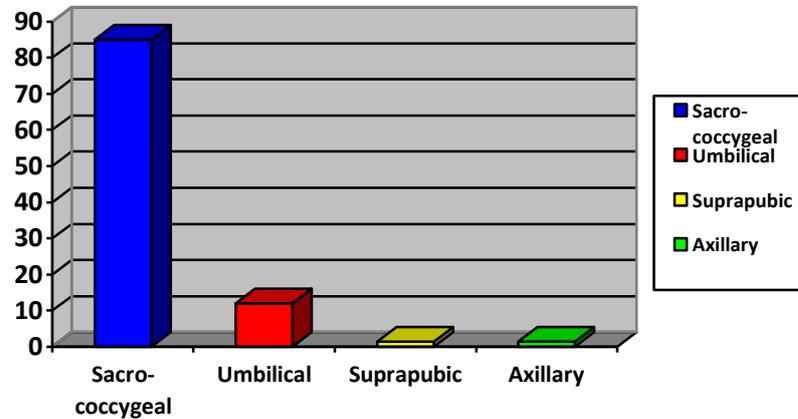


Fig (1) Anatomical classification of PND among the study group

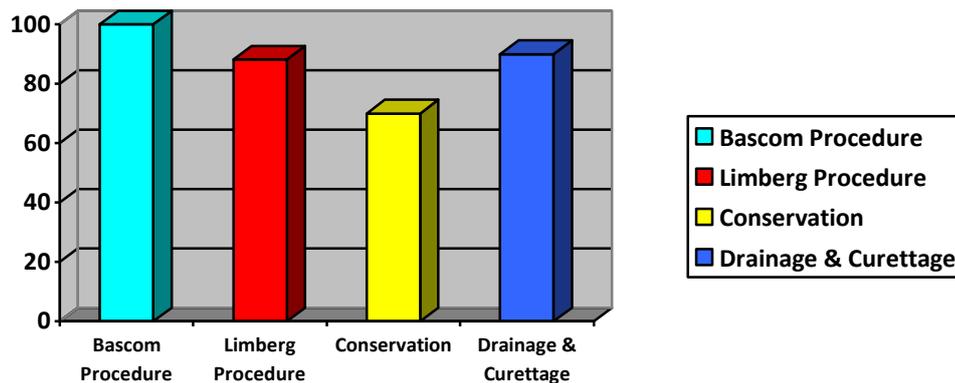


Fig (2) Success rate of different modalities

Discussion

In spite of high incidence of pilonidal disease affecting young population and the prolonged disabling period caused by it, surgeons have not reached to unanimity about the best treatment for this condition (Nahas *et al.*,1997).

It has been reported that the chances of infection are much higher in the wounds created by the lay open technique (Miocinovic *et al.*, 2000).

Excision and primary closure of the wound (done in umbilical & axillary PND

in our study) emphasize on quicker healing time, fewer postoperative visits and shorter time off work (Perruchoud *et al.*,2002).

The incidence of wound dehiscence following excision and primary repair are much less than that was previously thought (Zieger, 1999). However, the complications require longer hospital stay and long periods off work (Destito *et al.*,1997).

Limberg operation provided a good result but due to high incidence of complications as seroma, hematoma or

wound breakdown in addition to recurrence rate of 12%; we would like to reserve this technique only for extensive cases.

Bascom's operation was found to be an effective treatment for sacrococcygeal pilonidal disease. It results in shorter healing time, minimal morbidity for the patient and a low recurrence rate.

Preservation of tissue and a fat buttress in karydakis procedure (not done in our study) reduce midline tension and encourage primary healing; support of the midline wound using a fat buttress significantly increased the rate of primary healing (Mosquera *et al.*, 1995). which occurred in all our patients with other procedures.

We encouraged the patients to return to their normal activity as soon as possible because it was observed that the wounds healed more quickly in those patients who resumed their normal routine before the healing of the wound because of improvement of both immune response and blood supply to the wound (Ortiz *et al.*, 1977).

Concerning umbilical PND, conservative management gave marvellous result in early cases, only one case required excision of the umbilical scar (omphalectomy) after failure of conservative measures to heal the disease and carries high success rate.

So we recommend Limberg operation in extensive disease, conservative management or Bascom's operation in early cases of sacrococcygeal disease, conservative management for umbilical disease before deciding omphalectomy.

References

1. **Hull TL, Wu J. (2002):** Pilonidal disease. *Surg. Clin. North Am.*; 82: 1169-1185.
2. **Goligher J, Duthie H, Nixon H. (1992):** Pilonidal sinus. p. 230-233. In *Surgery of the anus rectum and colon*. 5th ed. Bailliere Tindall, London.
3. **Iesalnieks I, Furst A, Rentsch M, Jauch KW. (2003):** Primary midline closure after excision of a pilonidal sinus is associated with a high recurrence rate. *Chirurg*; 74: 461-468.
4. **Aydede H, Erhan Y, Sakarya A, Kumkumoglu. (2001):** Comparison of three methods in surgical treatment of pilonidal disease. *Aust; N. Z.J. Surg*; 71: 362-364.
5. **Nahas SC, Sobrado Junior CW, Araujo SE, Imperiale AR, Habr-Gama A, Pinotti HW. (1997):** Results of the surgical treatment of non-complicated pilonidal disease. *Rev Hosp Clin Fac Med Sao Paulo*; 52: 287-290.
6. **Miocinovic M, Horzic M, Bunoza D. (2000):** The treatment of pilonidal disease of the sacrococcygeal region by the method of limited excision and open wound healing. *Acta Med. Croatica* ;54: 27-31.
7. **Perruchoud C, Vuilleumier H, Givel JC. (2002):** Pilonidal sinus: how to choose between excision and open granulation versus excision and primary closure? Study of a series of 141 patients operated on from 1991 to 1995. *Swiss Surg.*; 8: 255-258.
8. **Zieger K. (1999):** Complications after surgery for pilonidal cyst. An introduction to a new debate on a "costly" disease. *Ugeskr Laeger*; 161: 6056-6058.
9. **Destito C, Romagnoli A, Pucello D, Mercuri M, Marin AW. (1997):** Pilonidal sinus: long term results of excision and closure technic. Review of the literature. *G. Chir.*; 18: 441-446.
10. **Mosquera D.A. , Quayle J.B., Chir M. (1995):** Bascom's operation for pilonidal sinus. *J. R. Soc .Med.*;88:45P-46P
11. **Ortiz HH, Marti J, Sitges A. (1977):** Pilonidal sinus: a claim for simple track incision. *Dis. Colon Rectum* ;20: 325-328

مرض الناصور الشعري أسباب بسيطة و علاج معقد

محمد حسن¹، أيمن رفعت²، عمرو عياد³، وائل طوبار⁴، اسلام جمال⁵
^{1,3,4,5} قسم الجراحة العامة- جامعة القاهرة. ² قسم الجراحة العامة- جامعة بنى
سويق

الغرض من البحث دراسة الوسائل المختلفة في علاج المرض, تمت دراسته على 75 مريض 59 من الرجال و 16 من النساء, 64 يعانون من ناصور عصصى و 9 ناصور فى أصره و حاله ناصور فوق العانة و حاله ناصور تحت الإبط. تم استخدام العلاج التحفظي و إجراء عملية لامبرج في الحالات المتأخرة و عملية باسكوم في الحالات المتقدمة واستئصال الصرة بعد العلاج التحفظي فى حاله واحده. كانت النتائج مرضيه فى العلاج مع وجود حالتين ارتجاع للمرض بعد عملية لامبرج ولا يوجد اى مضاعفات بعد إصلاح باسكوم التي لها نسبة نجاح عاليه لذا نوصى باستخدام إصلاح باسكوم بعد فشل العلاج التحفظي في الحالات البسيطة و استخدام إصلاح لامبرج فى الحالات المتأخرة.