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Pilonidal Disease: Excision and Primary Closure

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ABSTRACT:

Background/Aim: There is no disagreement that the treatment of pilonidal disease is surgical with complete excision of the whole pilonidal sinus but controversy remains about what to do with wound after excision. Several techniques have been proposed. All of them try to reduce morbidity, offer fast healing, have a low recurrence rate and high cure rate, minimal hospital stay, minimal inconvenience and early return to work become important considerations. This study was undertaken to evaluate the treatment of pilonidal sinus with excision and primary closure.

Patients & Methods: Sixty two patients, 59 males and 3 females were managed by excision and primary closure.

Results: The average hospital stay was 5 days. Two patients developed recurrence (3.2%). The mean follow up period was 6 months with a range of 3-18 months.

Conclusion: Excision and primary closure is a cost effective way of treatment for chronic pilonidal disease with low recurrence. Patient compliance is very important. This treatment should be based on patient preference and socio-environmental habitat.

Key words: Pilonidal Disease, Excision, Primary Closure.

INTRODUCTION

Ever since the introduction of surgical treatment for pilonidal disease there have been modifications and reappraisals of various operative procedures from time to time that lead to the abandonment of some and improvement of others⁽¹⁻⁴⁾. The quest for the ideal operation for pilonidal disease has not ended as none of the procedures offers complete freedom from the side effects or low incidence of recurrence rates. The ideal operation for pilonidal sinus would be the one that is simple, low in recurrence and morbidity with short hospital stay and early return to work. In the world literature there have been waves of enthusiasms

in claiming better results for one operation over other. Present study evaluates our experience with 62 patients treated with excision and primary closure for pilonidal sinus.

PATIENTS AND METHODS

During the period from January 2005 to October 2007, the data of 62 patients who underwent elective surgical treatment of pilonidal sinus at surgical department of King Fahd Hospital Madinah (KFH), Kingdom of Saudi Arabia were collected. Acutely infected cases were excluded. All the cases with chronic pilonidal sinus were

treated by excision and primary closure. After diagnosis, patients were prepared for surgery on outpatient basis. Patients were admitted a day before scheduled surgery. Prior to shifting to operation room, patients were shaved from the gluteal skin crease up to mid-lumbar region and laterally to mid-axillary line. All patients received cephalosporin injection at time of induction. Surgery done in prone position with the buttocks strapped apart. Sinuses were probed to outline the tract. Excision done through an elliptical incision with its lateral margins equidistant from the midline at a level that would allow apposition of the wound. The incision carried vertically down with diathermy through grossly normal fatty tissue to the fascia overlying sacrum. All tracts, granulation tissue and hair nests were removed. Bleeding was controlled with diathermy and meticulous haemostasis should be ensured. The wound was irrigated with diluted povidone iodine solution then with antibiotic solution (1gm cephalosporin dissolved in 20ml normal saline). Full thickness deep tension sutures, using polypropylene 1, were placed at about 1.5 cm from the wound margins at 2 cm intervals. The buttocks straps were released. Vacuum suction was inserted through a separate stab over the sacro-coccygeal fascia to avoid post operative collection or haematoma. The skin edges were closed with interrupted 2/0 polypropylene sutures taking care to have accurate apposition of edges. A roll of vaslinized gauze was soaked in povidone iodine and placed over the length of the wound. Deep tension polypropylene sutures done before were tightened over the roll gauze. Strap tight dressing was applied for forty eight hours. Post operatively liberal analgesia was given. Patients were advised to sleep prone and instructions were given as to how to get out

of bed without putting much tension on the suture line. Light laxatives were given to avoid constipation and unnecessary strain. The drain was removed when there was no discharge usually after 48 hours. Patients were kept in hospital till the fifth or sixth day when tension sutures would be removed. All the discharged patients would receive five days course of oral cephalosporin and metronidazole. Instructions were given at time of discharge to keep their natal cleft clear of hair either by shaving or by using depilatory creams. All patients were advised to have bed rest for two weeks with instructions for avoiding driving for long times especially in hot weather. Follow up was conducted in outpatient clinic at ninth to tenth post operative day, when the sutures would be removed, two weeks later then every three months for a mean period 12-18 months.

RESULTS

The study included 62 patients with chronic pilonidal disease. Age ranges from 16-40 years, 59 (95%) were males and 3(5%) were females. The average hospital stay was 5 days. Two patients had prolonged stay (10-11days) because of social reasons. Fifty nine (95%) patients achieved complete and clean wound healing at the time of suture removal. Three patients (4.8%) had wound dehiscence due to wound infection in one patient and seroma in the other two patients. These patients treated conservatively by repeated dressing till complete healing within 5-6 weeks. Two patients out of this study had recurrent pilonidal sinuses at six and twelve weeks post operatively.

Total number	62
Male : female	19 : 1
Mean age	28 (16-40) years
Average hospital stay	5 days
Early complications	3 (4.8%)
Mean follow up period	6 months
Recurrence rate	2 (3.2%)

DISCUSSION

Since first case of pilonidal sinus by Mayo in 1833⁽⁵⁾, management has remained the subject of clinical and scientific debate. Many methods of treatment ranging from simple injection of phenol to extensive plastic surgery have been advocated. There is general agreement that the treatment of pilonidal sinus is surgical with complete excision of the whole sinus^(6,7) but controversy remains about management of the wound left after excision whether to be left open⁽⁸⁻¹⁰⁾, primarily closed⁽¹¹⁻¹³⁾ or closed by different types of flaps⁽¹⁴⁻¹⁶⁾. In fact there is no single operative procedure for pilonidal sinus has been universally accepted. An ideal operation should be simple, with short hospital stay and low recurrence and complication rate, associated with minimal pain, cost effective and have short off work time^(1,17).

Brushing of pits advocated by Lord and Taylor may be used in minor disease with healing time of 21-52 days with recurrence rate of about 24%. Repeated application of phenol to the pits has been used with 0-35% recurrence rate and healing time of 14-61 days^(3,18,19). Surgery is often required when chronic infection supervenes. Complete excision of the pilonidal sinuses down to the sacral periosteum is essential to minimize recurrence. Until 1936 excision of the sinus leaving the wound to heal by granulation tissue was used. This method is known to have a low recurrence rate of 4-6%, however it requires multiple repeated dressings and may take weeks to heal (median 3 months) with considerable off work time⁽²⁰⁻²²⁾. Flaps were used to hasten the wound healing with low recurrence rate of 4-6%^(1,23) but it takes a long time to heal ranging from 31-90 days⁽²⁴⁾. Lee et al⁽²⁵⁾ showed no advantage of the complex flap technique over simple techniques that require lesser operative time and shorter hospitalization care. The technique of excision and primary closure faced criticism due to difficulties in

closure and the dead space developing after excision. Early studies of this technique showed a relatively high rates of wound breakdown and recurrence ranging from 20-50%⁽²⁶⁻²⁸⁾. Later studies showed that excision and primary closure provides quicker healing and return to work in three to four weeks^(12,15,29). The aim of primary closure is rapid healing. This can be achieved by the prevention of sepsis and haematoma formation which is the common cause of early wound breakdown⁽²⁹⁾. To decrease the incidence of wound breakdown, primary closure is done by deep tension sutures and insertion of vacuum drain⁽¹²⁾.

In this study we used deep tension sutures with insertion of vacuum drains to primarily close the wound with early complications rate of 4.8% and recurrence rate of 3.2%. Williams et al⁽²⁹⁾ used simple primary closure without tension sutures but with insertion of drain with early complications rate 6.4% and recurrence rate of 12%. On the other hand, in the study of Kaira et al⁽¹²⁾ tension sutures were used without drains with early complication rate of 8.6% and recurrence rate of 18%. This policy of using drains, good haemostasis and tension sutures helped us to decrease the incidence of hematoma formation and wound dehiscence.

Average hospital stay in our study is 5 days. We preferred to keep our patients in hospital till fifth day when we removed drain and tension sutures and as per wound situation then patients would be discharged to home. It was stressed on all patients that to follow strictly instructions mentioned before. These factors in combination have worked in decreasing wound disruption and recurrence rate in our present study.

The ideal treatment should involve minimum inconvenience and time off the work. All our working patients were back to work within two to three weeks period similar to Jaber⁽²⁴⁾ with

selective use of tension sutures and drains. Initial time to healing in our series was 12 days, which is almost the same as reported by Khaira et al⁽¹²⁾. This is considerably less than the time taken to heal when patients were treated by excision alone with average period of 3 months^(1,8,10).

The failure of the treatment for pilonidal sinus of sacrococcygeal region was until recently thought to be related surgical and technical difficulties of wound closure. That is why we have number of modifications for closure of the surgical wound of the intergluteal region. Lately, greater emphasis has been given to the importance of bacteriological characteristics of the pilonidal disease. Literature reports point to high rates of the bacterial colonization in the pilonidal sinus, found in 88.5% of patients admitted for surgical treatment. Anaerobes predominate in the bacteriological tests, both in mixed and pure cultures. The ratio of anaerobes to aerobes is reported to be 5 to 1⁽³⁰⁻³²⁾, thereby we adopted a policy of short course of antibiotics that cover both staphylococci and bacteroids species.

CONCLUSION

Excision and simple closure of pilonidal sinus carries the advantages of quick healing and low rate of breakdown and recurrence. Although deep tension sutures and drains add to discomfort, and prolong stay in hospital but they offer advantage in terms of recurrence. Flaps and extensive plastic operations are to be reserved for recurrent and complicated cases⁽³³⁻³⁵⁾.

REFERENCES

- 1- Allen-Mersh TG. Pilonidal sinus: Finding the right tract for treatment. *Br J Surg* 1990;77: 123-133.
- 2- Dwight RW, Maloy JK. Pilonidal sinus, Experience with 449 cases. *N Engl J Med* 1953; 249: 123-132.
- 3- Stansby G, Grotorex R. Phenol treatment of pilonidal sinuses of the natal cleft. *Br J Surg* 1989; 76: 729-730.
- 4- Solla JA, Rothenberger DA. Chronic pilonidal disease: An assessment of 150 cases. *Dis Colon Rectum* 1990; 33: 758-761.
- 5- Mayo H. Observation in injuries disease of the rectum. Burgess and Hill, London 1833; 45.
- 6- Corman ML. *Colon and Rectal Surgery* 2nd ed Philadelphia: JB Lippincott, 1989: 297-304.
- 7- Goligher J. *Surgery of the Anus, Rectum and Colon*. 5th ed. Bailliere Tindall, London 1989: 221-236.
- 8- Al Hassan HK, Francis IM, Neglen P. Primary closure or secondary granulation after excision of pilonidal sinus? *Acta Chir Scand* 1990; 156: 695-699.
- 9- Fuzum M, Bakir H, Soyulu M, Tansung T, Kaymak E, Harmancioglu O. Which technique for treatment of complicated pilonidal sinus- open or closed? *Dis Colon Rectum* 1994; 37: 1148-1150.
- 10- Sonderaa K, Andersen E, Soreide A. Morbidity and short term results in a randomized trial of open compared with closed treatment of chronic pilonidal sinus. *Eur J Surg* 1992; 158: 351-355.
- 11- Anyanwu AC, Hossain S, Williams A, Montgomery AC. Karydakis operation for sacrococcygeal pilonidal sinus disease: Experience in district general hospital. *Ann R Coll Surg Engl* 1998; 80: 197-199.
- 12- Kheira HS, Brown JH. Excision and primary suture of pilonidal sinus. *Ann R Coll Surg Engl* 1995; 77: 242-244.
- 13- Kitchen PR. Pilonidal sinus: Experience with the Karydakis flap. *Br J Surg* 1996; 83: 1452-1455.
- 14- Abu Galala KH, Salam IM, Abu Samaan KR, et al. Treatment of pilonidal sinus by primary closure with transposed rhomboid flap compared with deep suturing: A prospective randomized clinical trial. *Eur J Surg* 1999; 165: 468-472.
- 15- Azab ASG, Kamal MS, Saad RA, Aboual Atta KA, Ali NA. Radical cure of pilonidal sinus by a transposition rhomboid flap. *Br J Surg* 1984; 71: 154-155.
- 16- Bozkurt MK, Tezel E. Management of pilonidal sinus with the Limberg flap. *Dis Colon Rectum* 1998; 41: 775-777.
- 17- Hull TL, Wu J. Pilonidal disease. *Surg Clin North Am* 2002; 82: 1169-1185.

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- 18-Blumberg NA. Pilonidal sinus treated by conservative surgery and the local application of phenol. *S Afr J Surg* 1978;16: 245-247.
- 19-Kelly SB, Graham WJ. Treatment of pilonidal sinus by phenol injection. *Ulster Med J* 1989; 58: 56-59.
- 20-Notaras MJ. A review of three popular methods of treatment of post anal (pilonidal) sinus disease. *Br J Surg* 1970; 57: 886-890.
- 21-Ortiz HH, Mati J, Stiges A. Pilonidal sinus: A claim for simple track incision. *Dis Colon Rectum* 1977; 20: 325-328.
- 22-McLaren CA. Partial closure and other techniques in pilonidal surgery: An assessment of 157 cases. *Br J Surg* 1984; 71: 561-562.
- 23-Silva JH. Pilonidal cyst: cause and treatment. *Dis Colon Rectum* 2000; 43: 1146-1156.
- 24-Al Jaber TMR. Excision and primary closure of chronic pilonidal sinus. *Eur J Surg* 2001; 167: 133-135.
- 25-Lee HC, Seow CF, Eu KW, Nyam D. Pilonidal disease in Singapore: Clinical features and management. *Aust N Z Surg* 2000; 70: 196-198.
- 26-Block LH, Greene BL. Pilonidal sinus: sclerosing method of treatment. *Arch Surg* 1938; 37: 112-124.
- 27-Close AS. Pilonidal cysts: An analysis of surgical failures. *Ann Surg* 1955; 141: 523-526.
- 28-Gabriel WB. Principles and practices of rectal surgery. 4th ed HK Lewis, London, 1948.
- 29-Williams RS. A simple technique for successful primary closure after excision of pilonidal sinus. *Ann R Coll Surg Engl* 1990; 73: 313-315.
- 30-Hanley PH. The dilemma of pilonidal disease-discussion. *Dis Colon Rectum* 1977; 20: 292-298.
- 31-Ghoneim ATM. Aerobic and anaerobic bacteriology of subcutaneous abscesses. *Br J Surg* 1981; 68: 498-500.
- 32-Brook I. Microbiology of infected pilonidal sinuses. *J Clin Pathol* 1989; 42: 1140-1142.
- 33-Dylek ON, Bekerciödlü M. Role of simple V-Y advancement flap in the treatment of complicated pilonidal sinus. *Eur J Surg* 1998; 164: 961-964.
- 34-Rosen W, Davidson JS. Gluteus maximus musculocutaneous flap for the treatment of recalcitrant pilonidal disease. *Am J Surg* 1996; 172: 293-297.
- 35-Scholler T, Wechselberger G, Otto A, Papp C. Definitive surgical treatment of complicated recurrent pilonidal disease with a modified fasciocutaneous V-Y advancement flaps. *Surgery* 1997; 121: 258-263.