

# A simple technique for successful primary closure after excision of pilonidal sinus disease

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Primary closure after excision of postanal pilonidal sinus disease frequently has been complicated by wound breakdowns. Healing by second intention takes many weeks and requires supervised wound care. A simple technique has been developed which has resulted in primary healing in 28 of 31 patients treated in a 5-year period. Sepsis and haematoma formation, the causes of wound breakdown after pilonidal sinus excision, have been prevented by preoperative preparation, prophylactic antibiotic administration, wound irrigation with povidone-iodine and simple skin closure over a Redivac® suction drain for at least 4 days.

This series suggests that primary closure can be successful using the technique described.

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Pilonidal sinus disease of the natal cleft is common and disabling, typically afflicts the young and active, and is best treated by surgical excision of diseased tissues down to the sacrococcygeal fascia (1).

Primary closure of the resulting wound cavity has frequently been complicated by early or late breakdown, occurring in 15% to 49% of cases in reported series (1,2) due to the formation of an infected haematoma.

Wounds left open take many weeks to heal and require daily nursing care, so surgeons have continued to attempt primary closure to avoid this. Traditionally, sutures of heavy-gauge material have been placed deeply and tied over a pack to exert pressure on the wound (2). This produces a bulky, uncomfortable dressing which does not always prevent haematoma. Infection may be encouraged by prolonged contact with the packing (which traps wound exudate) and possibly by spread of bacteria down suture tracks.

A method is now described which has produced

successful first-intention healing after excision of pilonidal sinus disease, without late wound breakdown or recurrence of pilonidal disease.

## Patients and methods

A total of 31 patients with chronic postanal pilonidal sinus disease were treated between 1983 and 1988 in the author's private practice (males = 24, females = 7; ages 14–31 years, median 19 years). Median duration of symptoms was 9 months and nine patients had previously received treatment for acute pilonidal sepsis.

Acute sepsis was treated and allowed to fully resolve prior to definitive surgery.

## Preoperative preparation

Patients were usually admitted to hospital on the day of surgery. Natal cleft skin was shaved and disinfected with full-strength povidone-iodine solution 1 h before surgery; usually at the time of premedication for anaesthesia.

A single intravenous dose of 1 g cephalothin sodium was given with induction of general anaesthesia.

This antibiotic was chosen because of its low cost, lack of toxicity and broad spectrum antimicrobial activity (particularly against staphylococci) (3).

## Operation

Patients were positioned prone, buttocks strapped apart, and povidone-iodine skin preparation repeated.

Excision of the pilonidal sinuses followed standard technique, with careful prior identification of all sinuses and elliptical excision of affected skin and sinuses down to the sacrococcygeal fascia (2). Additional tangentially

placed incisions were sometimes needed to excise sinuses extending laterally.

After obtaining haemostasis with diathermy, wounds were irrigated with 500 ml of 1% povidone-iodine solution using a 50 ml syringe and cannula with constant suction to prevent soaking of wound drapes. Irrigation of wounds with dilute povidone-iodine solutions has been shown to significantly decrease the incidence of subsequent infection (4). Further diathermy coagulation was then applied to small vessels which frequently rebled after irrigation. Considerable care was taken over this last step, aiming to achieve near perfect haemostasis. A high vacuum (Redivac®) suction drain was placed in the wound cavity prior to simple skin closure with interrupted 4.0 nylon sutures, and a Teflon® dressing was applied to the suture line. Median operation time was 35 min.

### Postoperative management

Most patients required only one or two doses of a narcotic analgesic, after which oral analgesics were effective. Patients were allowed out of bed on day two, but suction wound drains were left in place until at least day four, or longer if there was continuing drainage from the wound.

Patients were allowed home after removal of drains and asked to keep their wounds clean and dry. Sutures were removed on day fourteen.

Regular review was continued for 6 months and further information subsequently obtained by telephone. Patients were asked to have their natal clefts shaved twice monthly for 6 months to discourage early recurrence of pilonidal sinuses in the immature scar tissue.

### Results

Of the 31 patients, 29 had sound, infection-free wound union by the 14th postoperative day, with no subsequent

wound breakdown or recurrence of pilonidal disease. The follow-up period was 1–5 years, median 2.7 years.

The two wound breakdowns were attributable to haematoma formation after accidental premature removal of Redivac drains. These occurred early in the series and drains were subsequently secured more carefully.

### Conclusions

This series of 31 patients suggests that successful primary wound healing after excision of pilonidal sinus disease can be reliably achieved if sepsis and haematoma formation are prevented by:

- 1 Avoidance of definitive surgery in the presence of acute infection.
2. Shaving and disinfection of the natal cleft 1 h before surgery.
3. Use of prophylactic systemic cephalothin (one dose).
4. Irrigation of the wound with diluted povidone-iodine solution.
5. Meticulous haemostasis.
6. The use of a Redivac suction drain for at least 4 days postoperatively.

### References

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## Assessor's comment

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The paper is brief and to the point and describes in adequate detail a way of treating pilonidal sinus which has been successful in the hands of Mr Randolph Williams, who has modified one of the standard techniques, and in the 31 patients he has reported has achieved primary healing in 29, a very much higher

proportion than in any previously reported series. This should be a challenge to those who use a similar method and whose results are not as good.

The method is time consuming, operating time 35 min; expensive—the patient is nursed in bed for 2 days and stays in hospital for at least 4 days, but it has the