

## Treatment of pilonidal sinuses by phenol injections

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**Abstract.** Six female and 39 male outpatients, who suffered from acutely inflamed pilonidal sinus were treated by sclerotherapy between January 1985 and December 1988. Under local anaesthesia, 1–2 ml 80% phenol was injected into the sinus. The phenol, which was allowed to act for a minute, was washed out by irrigating the sinus with physiological common-salt solution. Of the questionnaire sent to all 45 patients, 37 proved suitable for evaluation. Complete healing occurred in 22 cases (59.8%). The healing time was 6.2 weeks on average. Besides a rather frequently observed transient reddening as a result of the local inflammation caused by the phenol, 5 patients developed an abscess which needed operative treatment. This study does not support the encouraging results of previous series.

**Résumé.** Six femmes et 39 hommes ont été traités entre janvier 1985 et décembre 1988 d'un sinus pilonidal non enflammé au moyen de sclérothérapie. En anesthésie locale, 1 à 2 ml d'une solution à 80% de phénol sont injectés dans le sinus. Le phénol est laissé en place durant 1 minute puis le sinus est irrigué avec une solution physiologique habituelle. Un questionnaire a été envoyé à 45 patients; 37 questionnaires sont utilisables pour l'évaluation. Une guérison complète survient chez 22 patients (59,5%). Le temps de guérison moyen est de 6,2 semaines. En dehors d'une rougeur transitoire observée fréquemment en réponse à une inflammation causée par le phénol, 5 patients ont développé un abcès nécessitant un traitement chirurgical. Cette étude ne confirme donc pas les résultats encourageants d'autres séries.

Since the first description of the pilonidal sinus by Anderson in 1847 [2], a host of reports on mostly surgical approaches has appeared. Besides more simple forms of treatment such as local excision with or without primary closure [4, 11, 13, 14] also sophisticated surgical techniques such as marsupialization [3], Z-plasty [7], rotational flap [10] and split-skin grafting were applied. De-

pending on the type of management, a hospital stay of usually several days or weeks is required for the patients. In our search for a therapy dispensing with hospitalization of the patient, we considered conservative treatment procedures to be a reasonable alternative. Among such procedures reported in the literature, it is mainly fibrin adhesion [15] and phenol injection [6, 12] which have gained in importance. In the following, we report our long term results obtained from 45 patients following treatment of pilonidal sinuses by phenol injection.

### Patient group and method

In the period from January 1985 to December 1988, we managed 45 patients (6 female, 39 male) with pilonidal sinuses by sclerotherapy. The age of the female patients averaged 26.2 years and 28.5 years for the males.

A basic requirement for the application of this procedures was that the patients had not acutely inflamed pilonidal sinus at the time treatment was initiated. Apart from 19 patients, who were subjected to sclerotherapy as the first treatment, 18 patients had already been pretreated unsuccessfully. Preceding therapeutic efforts ranged from such conservative approaches as sitz baths (3 patients), curettage (2 patients) to surgical interventions such as abscess incision and local excision (13 patients.)

After inspection and probing of the sinus tracts, communication with the rectum and anal canal was ruled out by rectoscopy and proctoscopy. In doubtful cases the sinuses were filled with methylene blue.

After the patients had been positioned prone with the pelvis slightly raised, and after shaving of the operative area, they were given local anaesthesia with 2% Xylonest solution. Hairs and debris in the sinuses were removed by curettage. We then fixed a bulb-headed cannula in the main orifice with a purse-string suture and, if additional orifices were present, we closed them with a suture. After generously coating the entire skin area above the sinuses with vasiline, 1–2 ml 80% phenol was instilled for one minute.

We removed the phenol by re-aspiration and washed out the tract system with 0.9% common-salt solution. Removal of the threads, spreading of the main orifice and final curettage completed the intervention on the outpatients. The wound was covered with a dry dressing. The patients were able to leave the hospital immediately afterwards and called on us on the next day for a follow-up check. Aftercare consisted of taking daily sitz baths.

## Results

For the collection of long-term results we sent questionnaires to all 45 patients in spring 1992. Of the 38 forms returned 37 could be evaluated (equal to 82.2% of the total patient group). Complete healing had occurred in 22 cases (59.5%). Ten of these came from the group of 18 patients in whom preceding therapeutic measures had failed to provide permanent closure of the sinus. Thirteen patients (31.1%) complained of persistent sinus and in two cases (5.4%) the extent of healing did not clearly emerge from the questionnaire. After an initial failure we carried out a second phenol injection in 15 patients which led to permanent closure of the sinus in 5 cases. Healing took 6.2 weeks on average. The respective distribution is given in Fig. 1. Owing to the mechanism of action of phenol obliteration, transient reddening and bland secretion were seen in numerous cases.

Six patients developed complications which needed treatment. In 5 instances an abscess developed which required surgery. Excision was performed three times and abscess incision twice. One patient with a pronounced perifocal inflammation and fever up to 38.3 °C received a short term dose of antibiotics intravenously.

## Discussion

The many methods of treatment described for pilonidal sinus clearly illustrate that so far no rapid and simple procedure has been found for the management of this basically minor disease.

If different methods for the treatment of pilonidal sinus are to be compared attention must be drawn to the following criteria: duration of stay in hospital, time of wound healing and recurrence rate.

A stay in hospital of 14 to 16 days for excision and primary suture and of 21 to 26 days for open excision of pilonidal sinus was reported in the past [8, 9]. Nowadays a hospitalization time of 8 days after primary closure [1] and only an overnight stay after laying open seems to be more realistic. As the phenol treatment can be carried out on an outpatient basis it compares favourably with other therapeutic approaches. In contrast to the one-day stay in hospital reported by Shorey [12] following phenol injection under intubation anaesthesia, all our subjects were treated under local anaesthesia and left the clinic immediately after the procedure. In all our patients local analgesia was sufficient.

An average healing time of 7 to 9 weeks is reported for excision with healing by second intention [5, 8]. Similar figures are given for the simple incision with curettage [8, 9]. The average period of healing of 6 weeks observed in our patients can be readily compared to that obtained with the standard procedures mentioned. Only excision with primary closure, a treatment considered for not acutely inflamed pilonidal sinus, results in a clearly shorter healing time of 2 weeks [5, 8, 9].

The rates of recurrence in long-term studies following excision with healing by secondary intention vary between

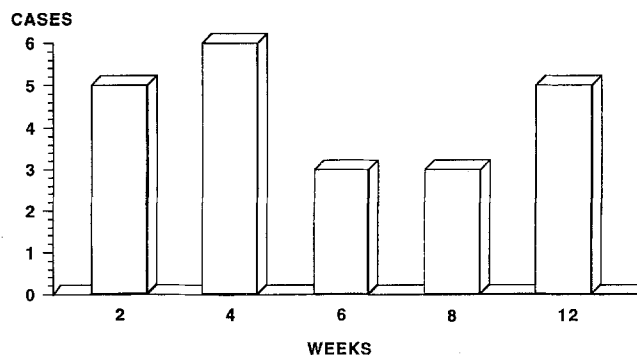


Fig. 1. Time to healing

9 per cent [8, 9] and 13 per cent [5]. For local excision with primary suture recurrence rates of 12 per cent [8], 21 per cent [9] and 25% [5] are reported.

Following phenol sclerotherapy, recurrences have been observed in 9% [12] to 19% [6] of cases. In 1987 preliminary results of the first 29 patients belonging to the group presented here revealed a recurrence rate of only 3.5%. By contrast, the recurrence rate of 40.5% for the long-term series is very high. The high recurrence rate observed in our follow-up of at least 48 months may be due to persisting granulation lined cavities which can lead to recurrent infections even many years after sclerotherapy.

In conclusion, this study does not support the encouragingly low recurrence rates reported by others [6, 12]. The advantage of sclerotherapy or treatment on an outpatient basis is outweighed by a high recurrence rate.

## References

- Allen-Mersh TG (1990) Pilonidal sinus: finding the right track for treatment. *Br J Surg* 77: 123–132
- Anderson AW (1847) Hair extracted from an ulcer. *Boston Med Surg J* 36: 74
- Buie LA (1982) Jeep disease (pilonidal disease of mechanized warfare). *Dis Colon Rectum* 25: 384–390
- Edwards MH (1977) Pilonidal sinus: a 5-year appraisal of the Millar-Lord treatment. *Br J Surg* 64: 867–868
- Kronberg O, Christensen K, Zimmermann-Nielsen C (1985) Chronic pilonidal disease: a randomized trial with a complete 3-year follow-up. *Br J Surg* 72: 303–304
- Maurice BA, Greenwood RK (1964) A conservative treatment of pilonidal sinus. *Br J Surg* 51: 510–512
- McDermott FT (1967) Pilonidal sinus treated by Z-plasty. *Aust N Z J Surg* 37: 64–69
- McLaren CA (1984) Partial closure and other techniques in pilonidal surgery: an assessment of 157 cases. *Br J Surg* 71: 561–562
- Notaras MJ (1970) A review of three popular methods of treatment of postanal (pilonidal) sinus disease. *Br J Surg* 57: 886–890
- Perez-Gurri JA, Temple WJ, Ketcham AS (1984) Gluteus maximus myocutaneous flap for the treatment of recalcitrant pilonidal disease. *Dis Colon Rectum* 27: 262–264

11. Shons AR, Moontjoy JR (1971) Pilonidal disease: the case for excision with primary closure. *Dis Colon Rectum* 14: 353–355
12. Shorey BA (1975) Pilonidal sinus treated by phenol injection. *Br J Surg* 62: 407–408
13. Stelzner F (1981) *Die anorektalen Fisteln*. 3rd edn. Springer, Berlin Heidelberg New York, pp 274–280
14. Stelzner F (1984) Die Ursache des Pilonidalsinus und der Pyodermia fistulans sinifica. *Langenbecks Arch Chir* 362: 105–118
15. Wolf N (1988) Indikation zur Fibrinklebung in der Proktologie. In: Manegold BC, Jung M (eds) *Fibrinklebung in der Endoskopie*. Springer, New York Heidelberg Berlin, pp 161–163

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