Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.JournalofSurgicalResearch.com

Aspiration for acute pilonidal abscess—a cohort study

Konstantinos Lasithiotakis, MD, PhD, FEBS, Assad Aghahoseini, FRCS, Dimitra Volanaki, MD, Mark Peter, MBChB MD FRCS(Ed), and David Alexander, MBBS (Lon), MS*

Department of General Surgery, York Teaching Hospital NHS Foundation Trust, York, UK

ARTICLE INFO

Article history:
Received 14 June 2017
Received in revised form
19 August 2017
Accepted 29 September 2017
Available online xxx

Keywords:
Pilonidal abscess
Sacrococcygeal abscess
Aspiration

ABSTRACT

Background: The traditional open incision and drainage of a pilonidal abscess is associated with slow healing and delayed return to normal daily activities. The aim of this study is to assess safety, effectiveness, and patient satisfaction of aspiration followed by antibiotics for a pilonidal abscess.

Material and methods: All patients presenting with an acute pilonidal abscess during the period December 2010 and December 2014 in York Hospital, UK, were treated with bedside aspiration under local anesthetic, followed by oral cefalexin and metronidazole for 7 days. Patients with immunosuppression, diabetes, overlying skin necrosis, and perforation were excluded. Complications of the procedure were prospectively recorded. Long-term outcomes and overall patients' satisfaction were assessed with the use of mailed questionnaires and Visual Analogue Scales (VAS) (0 = not satisfied at all, 10 = very satisfied).

Results: One hundred sixty-nine patients presented with an acute pilonidal abscess and a total of 100 patients were treated with aspiration and antibiotics. There were 50 women (50%) and the median (interquartile range [IQR]) age of the cohort was 24 (14) years. Eleven patients had a history of a previous pilonidal procedure. Seven patients were treated successfully with a reaspiration. Overall, 10 patients required incision and drainage after a median (IQR) follow-up time of 29 (47) months. Fifty-six patients returned completed questionnaires. The median (IQR) of the VAS for the overall satisfaction of the procedure was 9 (5).

Conclusions: Aspiration of a pilonidal abscess in selected patients is effective in 83%, and it is associated with high overall satisfaction rates.

Introduction

An acute pilonidal abscess is traditionally treated with incision and drainage under local or general or spinal anesthetic with the aim to reduce pain and to allow for rapid control of local infection, which will enable subsequent definitive surgical treatment. In York Hospital, the traditional practice has been challenged and the acute pilonidal abscess is treated selectively with aspiration under local anesthetic, followed by a course of empirical antibiotics. Initial results showed that this approach can safely minimize the need for emergency incision and drainage, and it might be associated with faster recovery and return to normal activities.[1] The aim of this study was to analyze the medium to long-term outcomes of

* *Corresponding author*. Department of General Surgery, York Teaching Hospital NHS Foundation Trust, The York Hospital, Wigginton Road, York, North Yorkshire YO31 8HE, UK. Tel.: +0044 1723 236362; fax: +0044 1723342504.
E-mail addresses: konstantinos.lasithiotakis@york.nhs.uk, kwstaslasith@yahoo.gr (K. Lasithiotakis).
0022-4804/$ – see front matter
https://doi.org/10.1016/j.jss.2017.09.051

this approach in a large number of patients also taking into account also patients' perceptions and satisfaction.

Materials and methods

During the period December 2010 to December 2014, patients presenting to York Hospital with an acute pilonidal abscess were treated with aspiration of the abscess to dryness with the use of a 16-gauge needle under local anesthetic with 2-5 ml of lidocaine 1%. Aspiration was followed by a 7-day course of cefalexin (500 mg, every 12 hrs) and metronidazole (400 mg, every 8 hours) and oral analgesics as required (ibuprofen and paracetamol). Ethical approval was obtained by the Research and Development Office and Ethics Committee of York Teaching Hospitals NHS Foundation Trust (No. 2786).

Exclusion criteria were as follows: necrosis of the skin overlying the abscess, spontaneous perforation, immunosuppression due to disease or medication, and diabetes. Excluded patients were treated with open incision and drainage with or without postoperative antibiotics.

All patients were allowed to be discharged the same day, and a follow-up appointment in a specialized outpatient clinic after 7 days was arranged to ensure resolution of abscess and to assess the need for excision of the pilonidal sinus. Excision of the pilonidal sinus was performed by the same surgeon and according to the technique of Karydakis *et al*. (methylene blue injection, paramedian closure, and elevation of the natal cleft). Specimen of the pilonidal sinus was regularly subjected to histologic examination.

Clinical and demographic data were entered into a prospectively maintained database during the follow-up visit 7 days after aspiration. A postal questionnaire survey was carried out to determine the patients' perception, associated pain and discomfort as well as overall satisfaction. The questionnaire consisted of five items on demographics, past medical history, smoking history, and height/weight, six items on the current condition of the patient regarding pilonidal disease, and 11 items on the experience of pilonidal abscess aspiration. For pain and satisfaction assessment items, a Visual Analogue Scale (VAS) was used. A telephone survey was conducted for patients who did not return the questionnaires after 2 months. The same questionnaires were used for the telephone surveys. Finally, the electronic patients' notes were searched to identify referrals and admissions for recurrent pilonidal abscesses and related late complications of the treatment. All procedures performed in studies involving human participants were in accordance with the ethical standards of the Institutional Research Committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

Statistical methods

Median and interquartile range values were used to describe continuous variables. To compare the distribution of continuous variables between the groups, the Kruskal-Wallis test was used. For categorical variables, Pearson's chi-squared statistical test was used. Relative risks were estimated using exposure odds ratios and the corresponding 95% confidence intervals from cross tabulation.

Correlation between variables was assessed with the use of Spearman's rho statistic and associated *P* values. All *P* values calculated were two-sided, and the significance level was chosen to be 0.05. All calculations were performed with the Statistical Package for Social Sciences (SPSS), version 16.0 (SPSS Inc, Chicago, IL).

Results

During the study period, 169 patients presented with an acute pilonidal abscess. After applying exclusion criteria, 100 patients were eligible for aspiration and antibiotics. There were 50 males and 50 females, and the median (IQR) age was 24 (14) years. Eleven of them had a history of previous surgical procedure for pilonidal disease, nine had an incision and drainage, and two had an elective excision of pilonidal sinus. There were no complications during the procedure, and no patient required an overnight hospital stay. Seven patients required reaspiration for persistent abscess, and from those, one patient required a third reaspiration to complete resolution and one subsequently required an open incision and drainage. Two patients required readmission for open incision and drainage of the initial nonresolving abscess (Figure). Two patients presented with inflamed sinus and were treated with antibiotics, and one patient presented with natal cleft pain, without infection or collection, and was successfully treated with analgesics. Eight patients developed a recurrent abscess after complete resolution of the primary one after a median time of 8 weeks (range: 4-32) (Table 1). None of them had been previously treated with a reaspiration. One of them was treated successfully with aspiration and seven with incision and drainage (Figure). Elective resection of the pilonidal sinus was performed in 38% of the patients after a median (IQR) time of 5 (6) months. Histologic examination of the specimen showed pilonidal sinus in 35 of 38 patients (92%).

There was no significant difference in the distribution of age, gender, history of previous admission, and history of previous pilonidal operation or microbiology between patients who had experienced post-aspiration complication or not (data not presented). There was no significant difference in the distribution of age, gender, BMI and smoking, history of previous admission for pilonidal disease, and history of previous pilonidal operation or microbiology between patients who responded to the first aspiration or not (data not presented). Post-aspiration complication was not associated with the subsequent occurrence of elective pilonidal surgery (data not presented).

Overall, 56 patients responded to the questionnaires. Their baseline characteristics are presented in Table 2. VAS pain scores (median [IQR]) before admission and at the time of aspiration were 8 (5) and 9 (3) respectively. VAS pain scores (median [IQR]) 1 and 24 hours after the procedure were 5.5 (5) and 6 (5), respectively. VAS pain scores during aspiration were lower with increasing age (Spearman's rho −0.4, $P = 0.01$), but