



Preauricular sinuses in the pediatric population: Techniques and recurrence rates

Eng Cern Gan^{a,*}, Rosslyn Anicete^a, Henry Kun Kiaang Tan^a, Abhilash Balakrishnan^{a,b}

^a Department of Otolaryngology, KK Women's and Children's Hospital, Singapore

^b Department of Otolaryngology, Singapore General Hospital, Singapore

ARTICLE INFO

Article history:

Received 6 November 2012

Received in revised form 15 November 2012

Accepted 18 November 2012

Available online 23 December 2012

Keywords:

Preauricular sinus

Recurrence

Complication

Surgical technique

Microscope

Methylene blue dye

Children

Branchial arch disorder

ABSTRACT

Aim: To review the outcomes of two surgical techniques in the management of preauricular sinus in the pediatric population.

Methods: The clinical records of pediatric patients who underwent surgical excision of preauricular sinus in the Department of Otolaryngology of KK Children's and Women's Hospital between January 1997 and March 2009 were retrospectively reviewed. Patients were categorized into two groups, based on the method used for sinus tract visualization or delineation: (1) Microscope group and (2) methylene blue dye and probe group. The latest information on recurrence of preauricular sinus and complications after surgery were updated by phone interview.

Results: 208 out of 305 preauricular sinuses were included in this study ($n = 114$ in microscope group; $n = 94$ in methylene blue dye and probe group). 97 cases were excluded as these patients were not contactable by phone or had inadequate data from the clinical records. The mean age of the patients is 6.5 years old. The overall recurrence rate was 2.4% (95% confidence interval (CI) 0.010–0.055) and the overall complication rate was 6.3% (CI 0.037–0.104). Surgical excision with microscope guidance had significantly lower recurrence rate (0.9%) compared to surgical excision with methylene blue dye and probe guidance (4.3%), with an odds ratio of 28.4 (CI 1.22–659.99, $P = 0.037$). The complication rates were not statistically significant between the two groups. The recurrence and complication rates were not significantly affected by race, gender, sex, location of sinus, indication for surgery, history of previous sinus excision, presence of infection during surgery and duration of surgery.

Conclusion: Surgical excision of preauricular sinus under microscope guidance and under methylene blue and probe guidance in our series had very low overall recurrence and complication rates compared to that reported in the literature. The microscope group had a lower recurrence rate in comparison to that of the methylene blue and probe group.

© 2012 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

Preauricular sinuses are common congenital abnormalities in children. They were first described by Heusinger in 1864 [1]. The incidence ranged from 0.1 to 0.9% in the Western populations, although a higher incidence of 4% and 10% has been reported in Blacks and Orientals [2]. They are usually noted on routine examination as small pits adjacent to the external pinna, usually along or anterior to the ascending limb of helix, although the variant types of preauricular sinuses presenting as postauricular swelling have been reported [3]. The majority of preauricular sinuses are asymptomatic and do not require treatment. However, once they become symptomatic from acute infection, persistent or intermittent discharge, or abscess formation, surgical excision is

warranted. Various techniques for surgical extirpation of symptomatic preauricular sinus have been described with recurrence rates ranging from 3.7% to 42% [2–15]. In this study, we aim to review the surgical methods and outcomes in the management of preauricular sinus in the pediatric population.

2. Methods

The clinical records of children who underwent surgical excision of preauricular sinus in the Department of Otolaryngology at KK Women's and Children's Hospital between January 1997 and March 2009 were retrospectively reviewed. This study was approved by the Centralized Institutional Review Board (CIRB) of Singhealth Research Facilities in Singapore. The following data were collected from the clinical records:

1. Patient demographics (age, gender, race)
2. Location and laterality of preauricular sinus

* Corresponding author at: KK Women's and Children's Hospital, 100 Bukit Timah Road, 229899 Singapore, Singapore. Tel.: +65 6394 1676; fax: +65 6295 6339.
E-mail address: engcern@gmail.com (E.C. Gan).

3. Indication for surgery
4. Documentation of previous incision and drainage of preauricular sinus
5. Documentation of previous excision of preauricular sinus
6. The use of microscope or methylene blue dye and probe during surgery
7. The presence of infection during surgery
8. Duration of operation
9. Presence of infection during surgery (e.g. granulation tissue, purulent discharge or abscess)
10. Duration of follow-up
11. Complications after surgery
12. Recurrence after surgery (defined as persistent discharge or recurrent infections more than a month after surgery that failed to resolve with antibiotics).

Patients were subsequently categorized into two groups, based on the method used to assist in sinus tract visualization or delineation: (1) Microscope group (Fig. 1) and (2) methylene blue dye and probe group (Figs. 2 and 3). In both groups, excision is always carried out under general anesthesia and the surgical principle includes complete removal of the tract with part of the helical cartilage. All patients enrolled in the study were contacted by phone and the latest information on recurrence of preauricular sinus and complications after surgery were recorded. Bilateral preauricular sinus surgeries on the same patient were considered



Fig. 1. The operating theater set up of excision of the sinus with the aid of microscope.



Fig. 2. Infiltration of methylene blue dye into the sinus pit.



Fig. 3. Preauricular sinus delineated with exposed (stained in blue) but not violated sac and the use of a blade to remove a portion of the conchal cartilage. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of the article.)

as two separate cases. Statistical analysis was performed using SPSS version 18.

In our center, surgical excision of the preauricular sinus is usually performed about a month after the resolution of an acute infection. An acutely infected preauricular sinus is first treated with a course of antibiotic. If an abscess is present, incision and drainage will be performed. We routinely place the incision of the surgical drainage close to the sinus pit to facilitate future excision of the sinus tract. The placement of the drainage incision close to the pit enables an elliptical incision to enclose both the sinus pit and the scar during the elective surgical excision. If the drainage incision is initially placed far from the sinus pit, a subsequent larger or two separate elliptical incisions may be required for complete excision. In the presence of granulation tissue anterior to the sinus pit, two separate elliptical incisions may be required for complete excision of the pit and the granulation tissue (Figs. 4–8).

3. Results

There were a total of 304 cases of preauricular sinus in 281 children in this study (Fig. 9). Twenty-three patients had surgical



Fig. 4. Presence of granulation tissue anterior to sinus pit.

Download English Version:

<https://daneshyari.com/en/article/6213643>

Download Persian Version:

<https://daneshyari.com/article/6213643>

[Daneshyari.com](https://daneshyari.com)