ORIGINAL ARTICLE

# Excision of Pre-Auricular Sinus under Magnification

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## ABSTRACT

**Aim:** To evaluate the effectiveness of microscopic magnification during l pre-auricular sinus
**Methods:** All the patients were studied in whom excision of was done. Patients reviewed in follow up for recurrence of the condition.
**Results:** A follow up for a period of two years revealed satisfactory results regarding recurrence of the sinus.
**Conclusions:** Excision under microscopic magnification minimizes the chances of recurrence of preauricular sinuses.
**Keywords:** Pre-auricular sinus, Microscope.

## INTRODUCTION

Pre-auricular sinus is a squamous epithelial lined congenital malformation in front of external ear over the crus of helix. It was first mentioned in 1864[1]. Presented as a small skin pit that communicates with a network of subcutaneous cysts[2]. It could be superficial or may extend deep to tympanic ring[3]. It may be sporadic or inherited as incomplete autosomal inheritance [4]. A locus is found to chromosome8q11.1-q13.3[5,6]. It is more prevalent in females[7].The incidence is10% in Asians,5% in blaks,0.9% in whites[8].The incidence of unilateral and bilateral is 1.3-0.3 respectively. They are usually asymptomatic[9] and require no intervention. Majority is benign. However when infected, may presented as cellulitis, abscess, discharge or as preauricular ulcer. No association was found between preaurcular sinus and hearing impairment [10] .Surgical intervention is needed in case of recurrent infections[11]. Complete surgical excision of the tract and cyst down to the temporalis fascia is the treatment of choice. Incomplete excision leads to recurrence. A number of different methods have been used for complete surgical excision to prevent recurrence , including use of injection methylene blue into the tract, pre-operative sinogram, use of and lacrimal probe [2][12].The objective of this study is to evaluate the effectiveness of magnification of operating microscope for complete surgical excision of the sinus tract.

## PATIENTS AND METHODS

This is a hospital based study carried out at Mayo Hospital Lahore, Services Hospital Lahore, DHQ Hospital Gujranwala and DHQ Hospital Sahiwal. All the patients of preauricular sinuses who presented to the Otorhinolaryngology Departments of these hospitals were included in this study. After control of infection with appropriate antibiotics, necessary work up was done required for general anaesthesia. Surgery was performed after informed consent. The sinus tract was excised under magnification of operating microscope.

Local infiltration (injection lignocaine 2 % with adrenaline 1:200,000) subcutaneously was done for bloodless field and precise excision of the tract & its ramifications. Procedure was done under microscope magnification. After haemostasis the incision was closed with prolene. . Post-operative antibiotics were used and on fifth day the stitches were removed.

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## RESULTS

Thirty seven patients were operated, of which 13 were females. Thirty of them were less than15 year of age. Sinuses were more common on left side[19]) than on the right[11]. Seven patients had bilateral sinuses. Thirty three patients had primary excision of the lesion while four had previous surgery. Sinus tracts were single in 32 patients while multiple in 5. All the patients were followed up for 18.months regarding recurrence. No recurrence was found in any of the above patients during follow up.

Table-1: Sex distribution.

| Gender | Frequency | Percentage |
|---|---|---|
| Male | 24 | 65% |
| Female | 13 | 35% |

Table-2: Site distribution.

| Site | Frequency | Percentage |
|---|---|---|
| Left | 19 | 51% |
| Right | 11 | 30% |
| Bilateral | 07 | 19% |

Table-3: Age distribution.

| Age | Frequency | Percentage |
|---|---|---|
| Less than 15 years | 30 | 81% |
| More than 15 years | 07 | 19% |

## DISCUSSION

Pre-auricular sinus is a common congenital anomaly presented as a small skin lesion (opening) in front of external ear. Although not always symptomatic, sinus may become infected and manifest itself as cellulitis, abscess, discharge or ulcer. Recurrent infections is a definitive indication of surgical intervention. Complete excision of the tract is the only definitive cure. Surgical treatment is associated with higher recurrence rates. Recurrence rates range from 9-42%[12,13,14]. Several factors counts for recurrence after surgery. Surgeries during infection have higher rates of recurrence. Guru and co-workers have reported a recurrence of 8.22% without infection and 15.79% in the presence of infection [4]. In subsequent surgery incidence of surgical failure is more than primary

surgical excision. Instillation of methylene blue is used to locate the tract but it stains the surrounding tissues if extravasate and causes difficulty in proper excision of the tract so persistence of sinus tract leading to recurrence. The use of probe to delineate the sinus and operating under local anaesthesia have higher chances of recurrence[15]. We have adopted a better technique of sinus excision under magnification of the operating microscope. Magnification under operating microscope enables precise dissection [16] and further minimizes the risk of recurrence. Such technique was used by Tan T and co-workers[17]. Similarly, Chang and Wu[18] and Chowdary et al[19] advocates use of magnification during surgery. With the assistance of operating microscope.In our series, we have had extremely good results without a single recurrence in any of the thirty seven patients so far.

## CONCLUSIONS

It is concluded that operating microscopic is very helpful to minimize the chances of recurrence as magnification enhances the identification of pre-auricular sinus tract and its ramifications, so enables the surgeon to complete excision. Also surgery should be avoided in the presence of acute infection.

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