

## ASSESSMENT AND MANAGEMENT OF PREAURICULAR SINUS AT TERTIARY CARE CENTRE

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### ABSTRACT

**Background:** Preauricular sinus is a type of congenital anomaly which present around the external ear. According to Heusinger preauricular sinus is formed due to incomplete fusion of six auditory hillocks during the development of the auricle. Preauricular sinus characterized as a small opening or pit close to the anterior border of ascending part of the helix. **Material & Methods:** The present prospective study was conducted at department of otorhinolaryngology of our tertiary care hospital. All patients who were diagnosed with preauricular sinus were enrolled into the study. Written informed consent was taken from each study participant. **Results:** In the present study, out of total study participants on the localization of periauricular sinus it was reported that in 13 patients it was unilateral and in one patient it was bilateral. Among unilateral cases 8 patients had periauricular sinus on right side and 5 patients had periauricular sinus on left side. The most common finding was periauricular pit which was found in 9 patients. Swelling in preauricular area was reported in 4 patients, 3 patients presented with discharge from sinus and 3 patients presented with erythema. **Conclusion:** Periauricular sinus it was reported to be unilateral in majority of cases and periauricular sinus on right side was more common than left side. The most common findings were periauricular pit, Swelling in preauricular area, discharge from sinus and erythema.

**Keywords:** Preauricular sinus, Supraauricular dissection, Sinusectomy.

### INTRODUCTION

According Preauricular sinus is a type of congenital anomaly which present around the external ear. According to Heusinger preauricular sinus is formed due to incomplete fusion of six auditory hillocks during the development of the auricle (1). Preauricular sinus characterized as a small opening or pit close to the anterior border of ascending part of the helix. Preauricular sinus is situated superficial to the temporalis fascia, anatomically lateral and superior to the parotid gland and facial nerve. The tract of periauricular sinus merges with perichondrium of auricular cartilage. The anatomical course of the

periauricular sinus is vary in branch and length. Preauricular sinus is most commonly unilateral and rarely it presents as bilateral with right predominance. The right side reported to be more common and females are involved more in comparison to males (2).

Preauricular sinus are usually clinically asymptomatic and onset of symptoms are dependent on infectious process. All the localized symptoms like pain, erythema, swelling and discharge are the symptoms of infection. Previous studies are reported that the Staphylococcal species seen frequently and rarely

Streptococcus, Proteus and Peptococcus species reported to be involved in infection. Studies reported that to prevent recurrence of preauricular sinus surgery is the best option (3). Although it was reported that the recurrence rate is high because of incomplete removal.

Various factors like surgical technique, ramifications and previous surgery used are responsible for recurrence. Various studies reported that the excision of preauricular sinus (sinusectomy) has recurrence rate of more than 20% (4). We conduct the present study to assess and management of preauricular sinus at tertiary care centre.

## MATERIALS & METHODS

The present prospective study was conducted at department of otorhinolaryngology of our tertiary care hospital. The study was an observational study conducted during a period of one year. The study done at 95% confidence interval at 10% of maximum allowable error. All patients who were diagnosed with preauricular sinus were enrolled into the study. Clearance from hospital ethics committee was taken before start of study. Written informed consent was taken from each study participant.

Detailed history was taken from all the study participants along with complete otologic, nasal and throat examinations. All study participants were undergone for surgery for preauricular sinus excision by the method of supraauricular dissection. General anaesthesia was applied for all cases under 18 years of age. Standard operative and postoperative protocol was followed for all the study participants. All the study participants were followed up for 1 year to record for recurrences. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

## RESULTS

In the present study, we enrolled 14 patients who were diagnosed with preauricular sinus and attending outpatient department of otorhinolaryngology of our tertiary care hospital during the study duration. Out of the total 42.8% (06) were males and 57.2% (08) were females.

Study participants were aged from 6 years to 29 years of age with the mean age of the Study participants was 12.7±6.3 years. Out of the total study participants majority of them were in the age group of 10-15 years, which was followed by 4 patients in the age group of 15-20 years, 3 patients were in the age group of 5-10 years and 2 patients were in the age group of 20-30 years of the age. (Table 1)

**Table 1: Distribution of study participants according to study parameters.**

Parameters	No. of patients
<b>Male</b>	42.8% (06)
<b>Female</b>	57.2% (08)
<b>Mean age</b>	12.7±6.3 years
<b>Age group (years)</b>	
<b>5-10</b>	3
<b>10-15</b>	5
<b>15-20</b>	4
<b>20-30</b>	2

In the present study, out of total study participants on the localization of periauricular sinus it was reported that in 13 patients it was unilateral and in one patient it was bilateral.

Among unilateral cases 8 patients had periauricular sinus on right side and 5 patients had periauricular sinus on left side. The most common finding was periauricular pit which was found in 9 patients. Swelling in preauricular area was reported in 4 patients, 3 patients presented with discharge from sinus and 3 patients presented with erythema. (Table 2)

**Table 2: Distribution of study participants according to clinical characteristics of patients.**

Clinical finding	Number of patients
<b>Localization of sinus</b>	
Right side	8
Left side	5
bilateral	1
Preauricular pit	9
Swelling in preauricular area	4
Discharge from the sinus	3
Erythema	3

## DISCUSSION

In the present study, we enrolled 14 patients who were diagnosed with preauricular sinus and attending outpatient department of otorhinolaryngology of our tertiary care hospital during the study duration. Out of the total 42.8% (06) were males and 57.2% (08) were females. Study participants were aged from 6 years to 29 years of age with the mean age of the Study participants was  $12.7 \pm 6.3$  years. Out of the total study participants majority of them were in the age group of 10-15 years, which was followed by 4 patients in the age group of 15-20 years, 3 patients were in the age group of 5-10 years and 2 patients were in the age group of 20-30 years of the age. Similar findings were reported in a study conducted by Chowdary K et al among patients with periauricular sinus and found similar results to present study. They reported symptomatic preauricular sinus had recurrent and persistent infection which requires optimal management with wide local excision by Extended Post auricular incision through the Supra Auricular approach (5). Similar findings were reported in a study conducted by Scheinfeld N et al among patients with periauricular sinus events and found similar results to present study. They reported that periauricular sinus were usually asymptomatic, and most frequently presents unilaterally on the right side (6).

In the present study, out of total study participants on the localization of periauricular sinus it was reported that in 13 patients it was unilateral and in one patient it

was bilateral. Among unilateral cases 8 patients had periauricular sinus on right side and 5 patients had periauricular sinus on left side. The most common finding was periauricular pit which was found in 9 patients. Swelling in preauricular area was reported in 4 patients, 3 patients presented with discharge from sinus and 3 patients presented with erythema. Similar findings were reported in a study conducted by Prasad S et al among patients with periauricular sinus and found similar results to present study. They reported symptomatic preauricular sinus had recurrent and persistent infection which requires optimal management with wide local excision by Extended Post auricular incision through the Supra Auricular approach (7). Similar findings were reported in a study conducted by Huang X et al among patients with periauricular sinus and found similar results to present study. They reported symptomatic preauricular sinus had recurrent and persistent infection and the most common symptom associated was discharge from periauricular pit (8).

## CONCLUSION

We concluded from the present study that periauricular sinus it was reported to be unilateral in majority of cases and periauricular sinus on right side was more common than left side. The most common findings were periauricular pit, Swelling in preauricular area, discharge from sinus and erythema.

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