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RESEARCH ARTICLE

ANATOMICAL POSITION AND CLINICAL PRESENTATION OF PRE-AURICULAR SINUS (A CONGENITAL DEFECT) AMONG OUT PATIENTS ATTENDING ENT DEPARTMENT IN A TERTIARY CARE HOSPITAL, REWA, M.P. INDIA

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ABSTRACT

Aims and Objectives: The aim of study is to evaluate the prevalence and clinical presentation of congenital preauricular sinus (PAS) and to determine its association with other congenital abnormalities.
Methods: This is an observational study conducted in patients attending to OPD of ENT department. All patients with clinical diagnosis of pre-auricular sinus were enrolled after taking written informed consent and detail histories of presenting complaints were taken. Otologic, nose, throat and full general examinations were done to rule out the other associated congenital anomalies.
Results: A total 36276 patients were enrolled during the study period, of these 23 (0.06%) subjects were presented with pre-auricular sinus with some associated symptoms. 52.17% of these were belong to11-20 age group. 39.13% patients were presented with symptoms. Prevalence of PAS in patients attending OPD was 1:1656. Unilateral PAS was found in 73.91%; of this right side occurs more frequently (52.94%). Swelling in front of the ear and sinus discharge is (22.22%) most common complaint.
Conclusion: Preauricular sinuses (ear pits) are common congenital abnormalities. They can occur either side or bilateral but most frequently present on the right side ear. Most of cases were asymptomatic, but some may become infected; most commonly with gram-positive bacteria which can responsible for recurrent infection and purulent discharge.

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INTRODUCTION

Preauricular sinus is a benign congenital malformation of the preauricular soft tissues that usually occur at anterior margin of the ascending limbs of the helix of the external ear. It is also termed as preauricular pit, preauricular fistula, preauricular tract and preauricular cyst. (Chami and Apesos, 1989) The prevalence of preauricular sinus is varies in different parts of the world; in USA it is 0.1-0.9%, England 0.9%, Taiwan 1.6-2.5%, in Asian 4-6% and in some parts of African it occurs in 4-10% population. (Jimoh *et al*., 2008; Adam and Hudgins, 2003; Huang *et al*., 2007; Lizama *et al*., 2007; Deshpande and Watson, 2006; Firat *et al*., 2008) Auricular sinuses are classified into two types based on the location of the punctum and location and direction of the sac. (Choi *et al*., 2007) Recently a new terminology has been introduced to describe pre-auricular sinuses which lie posterior to the external auditory canal with a punctum posterior to the tragal line; and may extend to the post-auricular region called the "post auricular sinus (Choi *et al*., 2007). "Pre-auricular sinuses are differentiated from the newly described post-auricular sinuses by the location of the punctum, anterior or / and posterior to the tragal line, location and direction of the sac and the anterior and posterior to the external auditory canal. (Sanji *et al*., 2015) The auricle develops from the fusion of 6 mesenchymal proliferations, known as the hillocks of His. The most frequently cited and generally accepted theory attributes the

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development of PAS to incomplete or defective fusion of the 6 hillocks. The other, less well-known, published theory is that the sinus develops as a result of isolated ectodermal folding during auricular development. (Huang *et al*., 2007) Most of people with pre-auricular sinuses are asymptomatic. Only one third of persons are aware of their malformations. The pre-auricular sinuses are known to have varying clinical presentation and have been classified into two types based on the location of the punctum and location and direction of the sac. (Choi *et al*., 2007) Pre-auricular sinuses are prone to infection; it is mainly infected by Staphylococcus aureus and less commonly by Streptococcus and Proteus; leading to pre-auricular sinus abscess. (Amarilis Sanchez-Valle *et al*., 2002) Some patients with pre-auricular sinuses present with chronic intermittent drainage of purulent material from the opening. Draining sinuses are prone to infection. Once infected, these sinuses rarely remain asymptomatic, often developing recurrent acute exacerbations. (Noah S Scheinfeld and William, 1981)

MATERIALS AND METHODS

This is a hospital based prospective study conducted in the department of Ear, Nose and Throat in tertiary care Hospital of Central India, Rewa, MP. This study was carried out in between Feb 2015 to March 2016 in patients attending OPD. The data was collected from patients or their guardian after taking written informed consent. All patients with clinical diagnosis of pre-auricular sinus were enrolled into the study and detail histories of presenting complaints were taken. Otologic, nasal and throat examinations were performed of all patients and full general examinations were done to rule out other associated congenital anomalies. Abdominal ultrasound scan was done to rule out congenital renal anomalies and pure tone audiometry for hearing assessment. The collated data were expressed in form of tables and statistically analyzed by using SPSS version 11 computer software.

RESULTS

A total 36276 patients were enrolled and seen in ENT OPD during the study period, of these 23 (0.06%) subjects were presented with pre-auricular sinus and some other associated symptoms. 43.47% of these were females and 56.52 % were males having pre-auricular sinus. Maximum 52.17% of patients were belong to11-20 age group, 39.13% of cases were presented with symptoms and rest 60.87% were asymptomatic. Prevalence of pre-auricular sinus in OPD attending population was 1:1656. Unilateral pre-auricular sinus was found in 73.91% and bilateral in 26.08%. Among unilateral sinuses, right side occurs (52.94%) more frequent compare to left side ear (47.05%). Familial history of pre-auricular sinus was found in 5.56%. There are no other associated congenital anomalies or hearing impairment was noted during study. Most common complaint presenting with pre-auricular sinus are swelling in front of the ear and sinus discharge (22.22%), Giddiness (16.66%), Ear itching (16.66%), Otorrhea (11.11%), recurrent earache (11.11%) and others.

Table 1. Age & Sex wise Distribution of Patients with Pre-auricular Sinus

SN	Age in years	Sex wise Distribution of Patients					
		Male		Female		Total	
		No.	Percent	No.	Percent	No.	Percent
1	1-10	03	23.07%	01	9.09%	04	17.39%
2	11-20	06	46.15%	06	60.00%	12	52.17%
3	21-30	04	30.76%	01	9.09%	05	21.73%
4	31-40	0	0%	02	18.18%	02	8.69%
	Total	13 (56.52%)		10 (43.47%)		23 (100%)	

Table 2. Presentation wise Distribution of Patients with Pre-auricular Sinus

SN	Presentation of pre-auricular sinus		
		No. (Number)	Percentage (%)
1	Bilateral Ear	06 (n=23)	26.08 %
2	Unilateral Ear	17 (n=23)	73.91 %
3	Left side Ear	08 (n=17)	47.05 %
4	Right side Ear	09(n=17)	52.94 %
	TOTAL	23	100 %

Table 3. Clinical complaints associated with pre-auricular sinus during study

SN	Clinical complaints	No. (Number)	Percentage (%)
	Asymptomatic	14 (n=23)	60.87 %
	Symptomatic	09 (n=23)	39.13 %
1	Recurrent earache	01	5.56 %
2	Giddiness	01	5.56 %
3	Recurrent ear discharge	01	5.56 %
4	Ear itching	01	5.56 %
5	Sinus discharge	04	22.22 %
6	Otorrhea	02	11.11 %
7	Decreased hearing	01	5.56 %
8	Swelling in front of the ear	04	22.22 %
9	Tinnitus	02	11.11 %
10	Fascial asymmetry	00	00 %
11	Vomiting	01	5.56 %
	Total	18	100 %

DISCUSSION

Preauricular sinus is a congenital malformation, which usually manifest during childhood or early in life as in our study in which 52.17% present at 11-20 year age groups, this was similar to *Tan et al*. in which preauricular sinus was predominantly found in children. (Tan *et al*., 2005) The median age of patients at present study is.....years. The prevalence of PAS is varying from different parts of the world according to ethnic group as reported study. (Scheinfeld *et al*., 2004) However the true prevalence of PAS is remains unknown. (Currie *et al*., 1996) In our study the prevalence rate is 1:1656, the unilateral pre-auricular sinus was most common (73.91%) presentation in our study, and bilateral lesions occurs only in 26.08% of cases; this result is differ to Scheinfeld *et al.* (2008) study in which bilateral lesions had been found to occur in 25% to 50% of cases. Among unilateral sinuses, left-sided lesions were more frequent than right-sided lesions; this was similar to study[2]and dissimilar to Chami *et al.* (1989) in which right-sided PAS occurred more frequently. In present study, majority (60.87%) of patients with preauricular sinus were asymptomatic and about 39.13% of patients were present with some symptoms; this was dissimilar to Xin Yong Huang (2007) study in which 75% were asymptomatic and rest 25.0% were symptomatic. Among the symptoms, swelling in front of the ear and sinus discharge was the most common complaint; which was similar to Xin Yong Huang *et al*. study (2007). PAS is accompanied by 1 or more of the following: (1) another malformation or dysmorphic feature, (2) a family history of deafness and auricular and/or renal malformation, and (3) a maternal history of gestational diabetes mellitus. (Wang *et al*., 2001) but in our study the patients with PAS have not be shown an association of any other congenital malformations except the maternal history of diabetes mellitus after his birth. The other conditions associated with preauricular sinuses include sub-condylar impaction of a third molar, renal malformations (Leung and Robson, 1992) hearing loss, branchiogenic fistulas, commissural lip pits and external ear anomalies; however, these conditions occur rarely.

REFERENCES

Adam M, Hudgins L. 2003. The importance of minor anomalies in the evaluation of the newborn. Neo Reviews. 4(4): 99–104.

Amarilis Sanchez-Valle, Xueqing Wang, Lorraine Potocki, Zhilian Xia. 2002. HERV-Mediated Genomic Rearrangement of EYA1in an Individual with Branchio-oto-renal Syndrome. *Eur. J. Hum Genet*., 10: 757–766.

Chami RG, Apesos J. 1989. Treatment of asymptomatic preauricular sinuses: challenging conventional wisdom. *Ann Plast Surg*., 23: 406–411.

Chami RG, Apesos J. 1989. Treatment of asymptomatic preauricular sinuses: challenging conventional wisdom. *Ann Plast Surg*., 23: 406- 411.

Choi SJ, Choung YH, Park K, Bae J, Park HY. 2007. The variant type of preauricular sinus: Post-auricular sinus. Laryngoscope, 117: 1798-802

Currie AR, King WWK, Vlantis AC, Li AKC. 1996. Pitfalls in the management of preauricular sinuses. *Br J. Surg*., 83: 1722- 1724.

Deshpande SA, Watson H. 2006. Renal ultrasonography not required in babies with isolated minor ear anomalies. Arch. Dis. Child Fetal Neonatal. Ed. 91(1): 29–30.

Firat Y, Sireci S, Yakinci C, Akarcay M. 2008. Isolated preauricular pit and tags: Is it necessary to investigate renal abnormalities and hearing impairment. *Eur. Arch. Otorhinolaryngol*., 265 (9): 1057–1060.

Huang XY, Tay GS, Wansaicheong GK, Low WK. 2007. Preauricular sinus: Clinical course and associations. Arch. Otolaryngol. *Head Neck Surg*., 133(1): 65–68.

Jimoh OR, Alabi BS, Adebayo SS. 2008. Prevalence of preauricular sinus among Nigerians. *Surgery Journal*, 3: 61–63.

Leung AK, Robson WL. 1992. Association of preauricular sinuses and renal anomalies. *Urology*, 40 (3): 259-61.

Lizama M, Cavagnaro F, Arau R, Navarrete O, *et al*. 2007. Association of isolated preauricular tags and nephrourological anomalies: Case-control study. *Pediatr. Nephrol*., 22(5): 658–660.

Noah S Scheinfeld, JD; William D J. Congenital pre-auricular sinus. A study of 31 cases seen over a ten year period. International journal of Pediatric Otorhinolaryngology. 1981; 3 (3): 205–212.

Sanji RR, Channegowda C, Patil SB, Anand B. 2015. Pre- and post-auricular sinus. *Indian J Otol*., 21: 225-8.

Scheinfeld NS, Silverberg NB, Weinberg JM, Nozad V. 2004. The preauricular sinus: a review of its clinical presentation, treatment and associations. *Pediatr Dermatol*., 21: 191- 196

Tan T, Constantidines H, Mitchell TE. 2005. The preauricular sinus: A review of its aetiology, Clinical presentation and management. *Int. J. Pediatr. Otorhinoillaryngol*., 69: 1469–1474.

Wang RY, Earl DL, Ruder RO, Graham JM. 2001. Syndromic ear anomalies and renal ultrasounds. *Pediatrics*, 108: 32.

Xin Yong Huang, Guan ST, Gervais KW, Wong-KL. 2007. Preauricular sinus clinical course and associations. *Arch Otolaryngol Head Neck Surg*., 133(1): 65-68.

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