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ISOLATED PRE-AURICULAR TAGS: A MATTER OF CONCERN

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ABSTRACT

Preauricular cysts, pits, fissures, and sinuses are benign congenital malformations of the preauricular soft tissues first described by Van Heusinger in 1864. Preauricular pits or fissures are located near the front of the ear and mark the entrance to a sinus tract that may travel under the skin near the ear cartilage. These tracts are lined with squamous epithelium and may sequester to produce epithelial-lined subcutaneous cysts or may become infected, leading to cellulitis or abscess. Pre-auricular tags are relatively common isolated congenital anomalies with a prevalence of about 5 per 1000 live births. Several associations with congenital anomalies like increased risk of congenital urinary tract and heart malformations in new-born's have been reported in the literature. Infants with preauricular skin tags or ear pits are at increased risk for permanent hearing impairment. So, we studied a case where a 4 ½ year old male child brought by his parents for skin tags in front of both his ears showed normal left external ear with five preauricular skin tags and normal right external ear with two preauricular skin tags. Further evaluation was done with audiometry for acute otitis media with effusion in both his ears which revealed mild conductive hearing loss in both the ears. Pre-auricular fistulae and pre-auricular appendages do lie along the line of the first pharyngeal depression. In conclusion, Pre-auricular tags may be associated with certain syndromes which warrants complete audiological, urinary tract and heart examination in these subjects.

INTRODUCTION

The auricle develops from six mesenchymal proliferations at the dorsal ends of the first and second pharyngeal arches, surrounding the first pharyngeal cleft. These swellings (auricular hillocks), three on each side of the external meatus, later fuse and form the definitive auricle[1].

From ventral to dorsal, the hillocks on the first pharyngeal arch are called the tragus, helix, and cymba concha (or 1 to 3, respectively), and the hillocks on the second arch are called the antitragus, antihelix, and concha (or 4 to 6, respectively). These names indicate which hillocks eventually form each part of the pinna. During the 7th week, the auricular hillocks begin to enlarge, differentiate, and fuse to produce the definitive form of the auricle. As the face develops, the auricle is gradually translocated from its original location low on the side of the neck to a more lateral and cranial site[2].

The lobule (earlobe) is the last of auricle to develop. As fusion of the auricular hillocks is complicated, developmental abnormalities of the auricle are common. Initially, the external ears are in the lower neck region, but with development of the mandible, they ascend to the side of the head at the level of the eyes[3].

Defects of the external ear (i.e., the pinna or auricle) result from abnormal growth and morphogenesis of one or more of the auricular hillocks derived from the first and second pharyngeal arches. Accessory hillocks may also form, producing ectopic preauricular tags, which may or may not be accompanied by preauricular pits[2].

Preauricular tags often contain a core cartilage and represent accessory hillock of His, the hillocks that normally develop in the recess of the mandibular and hyoid arches and coalesce to form the auricle[4].

The little pits or fistulae, known by a variety of names, such as helical fistulae, pre-auricular fistulae, etc., which occur in the neighbourhood of the tragus and crus helices are probably present as frequent anomalies in all races. The appendages usually appear anterior to the auricle, most often unilaterally than bilaterally. The appendages, often with narrow pedicles, consists of skin but may contain some cartilage. They may or may not be associated with dysplastic ear abnormalities. Depressions may occur at various sites upon the auricle, but

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the term Congenital preauricular fistula should be restricted to those pits and fistulae that are situated on, or anterior to, the crus helices. The pit, and the fistulous track that sometimes leads from it, are congenital. The line upon which these fistulae occur may be defined as a curve passing from the temple to the anterior margin of the crus helices and so to the interspace between the crus helices and the upper part of the tragus; thence into the concha to the external auditory meatus and out again between the lower part of the tragus and the anti-tragus to the skin at the junction of the concha and the skin of the cheek[5].

CASE REPORT

A 4 ½ year old male child brought by his parents for skin tags in front of both his ears. Fig No 1-Showing the normal left external ear with five preauricular skin tags and Fig No 2-Showing the normal right external ear with two preauricular skin tags.

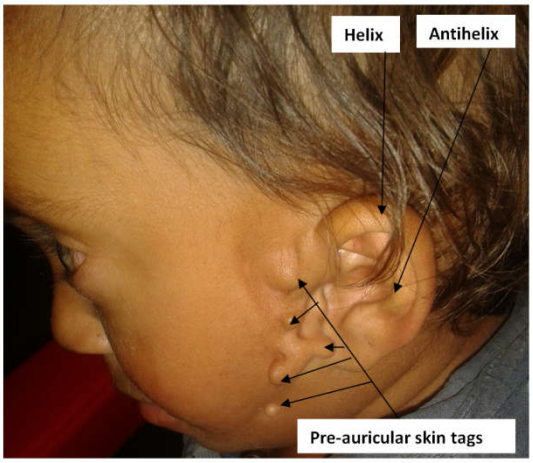

Fig No 1 Showing the normal left external ear with five preauricular skin tags.

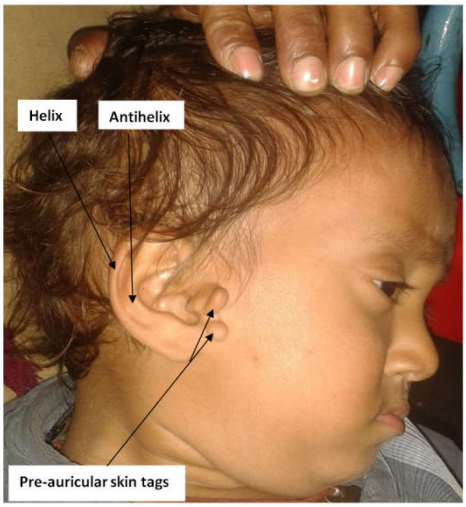

Fig No 2 Showing thenormal right external ear withtwo preauricular skin tags.

He was investigated with audiometry which revealed mild conductive hearing loss in both the ears. Clinically the patient had acute otitis media with effusion in both his ears. He was the only child and no other members of his maternal or paternal side had history of such congenital deformity. HRCT temporal bone did not reveal any bony deformity, with no deformity of middle ear ossicles. He was referred to Urology Department where they clinically found his external genitalia to be normal. An USG KUB was done which was found to be normal. Ophthalmology examination did not reveal any abnormality. The case was a simple first arch deformity not conforming to any syndrome. The child was advised to undergo excision of the skin tags under general anaesthesia, but the parents refused to give consent for surgery. (Fig no-1) & (Fig no-2)

DISCUSSION

Preauricular sinuses have pin point external openings which may contain vestigial cartilaginous masses. These sinuses may be associated with internal anomalies, such as deafness and kidney malformations like uni-lateral hydronephrosis and double renal pelvis. They are usually asymptomatic and have only minor cosmetic importance, however often they develop serious infections. Its clinical importance lies in the fact that it can give rise to an offensive discharge, form a retention cyst or can get infected. Infants with preauricular skin tags are also at increased risk for permanent hearing impairment and urinary tract infections[4].

Clinical presentation can be rarely a part of complex developmental anomalies of first and second branchial arches. Associated disorders include Oculo-auricular vertebral dysplasia (Goldenhar syndrome), Wolf Hirshorn syndrome, Branchio-oto-renal syndrome, Treacher Collins syndrome, Townes Brocks syndrome, Pierrre Robinson sequence, Auriculo-condylar syndrome and VACTERL syndrome. Familial occurrence, X-linked recessive and autosomal recessive may also regulate the process of these sinuses[6].

The embryological basis of these sinuses is uncertain, but probably involves pharyngeal groove. Although these fistulae are undoubtedly of congenital origin, there has always been a difficulty in accounting for their formation which is till date assumed as remains of the first bronchial cleft. Some authors also consider it as a result from aberrant coalescence of the six tubercles which are destined to form the pinna and other authors consider it to arise from the intertubercular grooves and postulates that shifting of the skin, during the processes of growth. The site of pre-auricular appendages appears to be very constant: from the tragus as a centre they may extend upwards and forwards towards the temporal region, between the upper part of the tragus and the crus helices; or downwards towards the cheek, between the lower part of the tragus and the anti-tragus. Some authors described definitive auricle developed from three tubercles or hillocks situated on the mandibular arch and three on the hyoid arch. Pre-auricular fistulae and pre-auricular appendages do lie along the line of the first pharyngeal depression[5].

Conflict of Interest: None

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