



A case of an accessory auricle

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ABSTRACT

During the embryological development of the ear, certain malformations may occur. Accessory auricle is one of these developmental anomalies, which has a wide range from a small elevation of skin to a large size to resemble an additional auricle, where the latter called polyotia. Here, we present a case of an accessory auricle in a young female adult. The occurrence was unilateral; the subject did not have any audiological disorder. We compared our findings with different cases of accessory auricle in the literature. The clinical importance and genetic association are also discussed. © IJAV. 2009; 2: 89–90.

Key words [ear] [auricle] [accessory] [polyotia]

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Introduction

The association and proportions between the structures in the face and head is a subject of interest for scientists as well as artists since renaissance. Auricle is one of these structures that have an important place in beauty measures, besides its function in hearing.

The external ear begins to develop around the dorsal end of the first branchial cleft during the sixth week of gestation. The auricle results from the fusion of six small buds of first two pharyngeal arches, called hillocks. The auricle is usually complete by the twelfth week. Initially, the auricles form at the base of the neck, but as the mandible develops, the auricles migrate to their normal adult location by gestational week 20 [1].

Accessory auricular anomaly is a cartilaginous skeleton covered with skin like a tragus [2]. It is frequently unilateral, but may be bilateral or multiple [3]. Embryologically, failure of proper fusion of six auricular hillocks during auricle development has been blamed for the development of accessory ears and polyotia [4].

Case Report

During the digital photogrammetric study of the auricle for the purposes of establishing the anthropometric measures in adults according to gender, as well as investigating the variations of the auricle and determining the prevalence of prominent ear deformity in Turkish adult population as my PhD dissertation study; we encountered a case of an accessory auricle in a 19-year-old female subject [5].

The accessory auricle was located on the right side, just anterior to tragus. It was round in shape and pedunculated. In palpation, tiny cartilage content was noted. The dimensions of the accessory auricle was 5.92x5.92 mm, the distance of the posterior border of the peduncle to the posterior border of the tragus was 2.96 mm. The right ear was as usual. The length of the right auricle was 51.52 mm, its width was 32.73 mm; these parameters for the left side were 52.86 mm and 32.69 mm, respectively. The subject did not have any audiological disorder. Her family history did not reveal similar case of accessory auricle nor audiological disorder. We advised her to consult to a plastic surgeon and/or otorhinolaryngologist. However, we did not receive any feedback.

Discussion

There are several forms of developmental anomalies of the auricle including microtia, polyotia and accessory auricle. Microtia is a congenital anomaly, characterized by a small, abnormally shaped auricle (pinna). It is usually accompanied by a narrow, blocked or absent ear canal. Microtia can occur as the only clinical abnormality or as part of a syndrome [1].

Polyotia is an extremely rare type of congenital external ear malformation. It is defined as an accessory ear that is large enough to resemble an additional pinna [6]. The aetiology of this condition is unclear [7].

Accessory auricular anomaly occurs as a small elevation of skin containing a bar of elastic cartilage. Embryologically,



Figure 1. Lateral view of the accessory auricle at the right side. (Arrowhead: accessory auricle)

failure of proper fusion of six auricular hillocks during auricle development has been blamed for the development of accessory ears and polyotia. They may be single

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or multiple and unilateral or bilateral. Some of these excrescences can only be found on palpation and do not contain elastic cartilage. If the mass is pedunculated, it may fall off spontaneously at early ages. The excrescences are usually 3–10 mm in size. In extremely rare cases, it may be large enough size to resemble an additional auricle defined as polyotia [4]. Clinical presentation can be rarely a part of complex developmental anomalies of first and second branchial arches. Associated disorders include Goldenhar syndrome, Wolf-Hirschhorn syndrome, Treacher-Collins syndrome, Townes-Brocks syndrome and VACTERL syndrome. Familial occurrence of accessory auricula was considered autosomal dominant. Irregular dominant inheritances were reported. The possibilities of X-linked recessive and autosomal recessive inheritances are also discussed in the literature [3].

The accessory auricular anomaly has been found in Goldenhar's syndrome. However, previous studies have shown that in many patients, the accessory auricular anomaly is just an isolated symptom and that the genetic trait of accessory auricular anomaly is autosomal dominant [2].

In conclusion, accessory auricle may be associated with certain syndromes. In such cases, complete audiological examination should be warranted, the subjects should be advised to receive genetic counseling for possible further examinations and finally they should be consulted to plastic surgeon and/or otorhinolaryngologist for the surgical removal of the tissue.