CASE REPORT

Accessory tragus: a dentist's perspective

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SUMMARY

Accessory tragus (AT) also referred as preauricular tag is a rudimentary tag of ear tissue. This paper presents two specific cases: one hereditary and another sporadic case of AT. A general clinical description of AT, its associated syndromes, embryology, aetiopathogenesis and management is discussed. A dentist can play an important role in spotting the AT during their head and neck examination. The presence of this defect can be correlated to other congenital defects of first branchial arch. On recognising its occurrence, the dentist can refer to a specialist for thorough investigation and management. A dentist can play a vital role in encouraging and counselling the parents for the correction of such defects as it improves the aesthetics of the face. Usually, children with these defects are often targets of teasing by peers.

BACKGROUND

Accessory tragus (AT) is a common congenital malformation of the external ear usually located in the preauricular region or less frequently in the mandibular or cervical region. The AT is a cartilaginous projection that normally occurs along an imaginary line drawn from the tragus to the angle of the mouth, or, uncommonly, along the anterior margin of the sternocleidomastoid muscle.¹ AT is usually presented as sporadic, but familial cases have also been reported previously. They are associated with some congenital syndromic anomalies.

Previous reports show that the presence of ear tags is associated with renal anomalies, hearing impairment and cardiac anomalies. In general, tags are regarded as cosmetically imperative.

This paper presents two specific cases of AT: one hereditary and another sporadic. A dentist can play

an important role in spotting the occurrence of an accessory tragus during their thorough head and neck examination. Identifying this defect may sometimes lead to the discovery of other congenital defects of first branchial arch if associated. Dentists on recognising its occurrence can encourage and direct the parents for the management of such defects by referring to a specialist. Correction of the defect improves the aesthetics of facial appearance. Children with such defect usually show the concern for aesthetics and teasing from peer group.

CASE PRESENTATION**Case I**

The parents of an 8-month-old boy reported to the department of pedodontics with teething associated with hyperaemia of mucosa overlying the erupting teeth. Routine head and neck region examination revealed a tag in front of the left ear along with a small tag and a nodule. The parents stated that the tissue overgrowth is present since birth and there was no history in both maternal and paternal family.

A physical examination of the left ear revealed a skin coloured, firm non-tender tag measuring 5 mm extending from the tragus and a small nodule 1 mm×2 mm in size slightly forward and inferior to tragus (figure 1). No other physical abnormalities and no known medical conditions were reported by parents. Intraoral examination revealed erupting mandibular deciduous incisors. The 'ear tags' did not present a cosmetic or hygiene problem to the parents and had no plans to remove them at the time.

Case II

A 2-year-old boy reported to the department of pedodontics with a history of trauma to the upper

Figure 1 Patient 1, lateral view, showing accessory tragus.

Figure 2 Patient 2, lateral view showing accessory tragus.

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front teeth due to fall. Intraoral examination revealed class IX of dental trauma with 51 (according to Ellis and Davis classification 1960) for which pulpectomy was planned followed by rehabilitation.

Routine head and neck examination revealed the firm skin tag anterior to the tragus of left ear, 3 mm×1 mm in size, present 1 mm in front of tragus, which was thinner at the apex and thicker at free end (figure 2). It was non-tender on palpation, and was present since birth. There were no other known physical or developmental defects. The family history revealed the presence of tag on all the paternal males of the family including father, uncle and grandfather (figure 3). Mother was more concerned with the tags and wanted them to be removed.

INVESTIGATIONS

Both the patients were referred to a paediatrician for renal and cardiac evaluation; ultrasonography report showed no abnormality.

DIFFERENTIAL DIAGNOSIS

Diagnosis is based on the clinical appearance and characteristics outlined above. The cardinal features of accessory tragi are their anatomic location and the presence at birth. Histological evaluation can help confirm the clinical diagnosis. While usually found in isolation, accessory tragi have been associated with a number of genetic syndromes and other abnormalities. In a small percentage of patients, accessory tragi have also been associated with hearing impairment and renal abnormalities such as hydronephrosis and horseshoe kidney. Among the former, routine neonatal hearing tests are effective in screening for defects. For the latter, a controversy exists as to whether routine renal ultrasonography is warranted in infants with isolated accessory tragi. However, in the absence of other abnormalities or symptoms, investigations are unwarranted.

AT differs from auricular fistulas, which might also be present at birth, in that the latter are typically depressions or pits located about the helix. Congenital branchial cysts characteristically appear on the upper lateral aspect of the neck (owing to their second branchial-arch origin) and often slowly enlarge and contain a clear-to-mucinous fluid with granular cellular debris when excised.

Epidermoid cysts might look similar, which are often well-circumscribed, dome-shaped, skin coloured, mobile, firm nodules commonly found on the face and neck of children. They are not typically congenital, rather resulting from occlusion of pilosebaceous follicles, and they can periodically become

inflamed or infected. Excision often results in the expression of a keratinised material of cheesy consistency.

TREATMENT

Accessory tragi are most often clinically insignificant and thus, in the absence of other signs or symptoms, reassurance is the only treatment required. Treatment might be sought if there is a localised irritation or if the lesion is cosmetically unacceptable. Surgical excision by a plastic surgeon or oral and maxillofacial surgeon is warranted, as care must be taken to remove all underlying cartilage, which can extend deep into the subcutaneous layer. It is generally advised for this to be completed before the child begins school. Incomplete surgical excision can leave an exposed cartilaginous fragment, resulting in slow healing or chondrodermatitis. If excised appropriately, complete healing takes place. In our case, both patients were motivated and referred to oral and maxillofacial surgeon for the needful. However, both the parents postponed the excision as it was not an emergency.

DISCUSSION

AT is an easily recognised congenital cutaneous anomaly.² It is a rudimentary tag of ear tissue, typically located just in front of the auricle, thus also called as preauricular tag.³ They are most often unilateral and solitary, but can be multiple or bilaterally present.⁴ Clinically, they are noted on physical examination at birth or by parents during the newborn period.

Generally presented as a skin-coloured nodule or papule located anterior to the tragus, they are also correctly referred to as heterotrophic tragi or supernumerary tragi and often inaccurately labelled as preauricular skin tags, accessory auricle, polyotia,⁵ rudimentary ear or supernumerary pinna.⁶ AT is a more precise term as it develops from first branchial arch, whereas tragus is the only part of external ear which develops from branchial first arch. The AT is a relatively common benign congenital anomaly⁷ that was reported by Birkett for the first time in 1858.⁸ The exact prevalence of AT as an isolated physical finding is unknown but it has been estimated to be 1.7:1000⁹ and is the most common form of all external ear abnormalities.¹⁰

The AT may contain elastic cartilage and hair component.³ However, it is extremely difficult to make a distinction between AT without cartilage and hair follicle nevus.¹¹ It may be soft or hard on palpation based on the presence of cartilage component. It is usually covered by vellus hairs and sometimes associated with cysts and sinuses. The occurrence of isolated AT is thought to be a part of the otorenal developmental field defects. They are more often associated with renal anomalies.¹⁰

AT is associated with Delleman syndrome, Goldenhar syndrome,⁸ Haberland syndrome and Townes-Brock syndrome.¹² In Goldenhar syndrome (oculoauriculovertebral dysplasia), the occurrence of AT is a constant finding which is an autosomal recessive condition. Embryologically, the auricle begins to develop from the first (mandibular) and second (hyoid) branchial arches at the fourth week of gestation. During the fifth and sixth weeks, the first and second arches form six mesenchymal tubercles called the hillocks of His. The first hillock forms tragus, second and third give rise to helix. The fourth and fifth hillocks give rise to antihelix and the sixth hillocks forms the antitragus.⁷ Three hillocks appear on each arch and as they develop they fuse to form the structures of the auricle. As the mandible grows, the primitive auricle ascends from the lower lateral neck to the side of the head level with the eyes.⁷ For this reason, accessory tragi may occur along the migratory line as the auricle ascends from neck region as their origin is from

Figure 3 Patient's father with accessory tragus, lateral view.

mandibular branchial arch.⁵ AT is generally detected near the tragus, but it is also seen rarely on the cheek, the lateral neck along the anterior edge of the sternocleidomastoid muscle, the glabella or the suprasternal area.¹³ Aberrancy of the tragus may occur in isolation, but it may occasionally signal a defect in the first or second branchial arches.¹ The pathophysiological basis of the accessory tragi relates directly to the embryological development of the external ear. The tragus derives from the first branchial arch, while the remaining components of the external ear all are derived from the second branchial arch.¹⁴ The pathological findings of AT are characterised by a connective tissue structure with abundant hairs often containing a central cartilaginous nucleus.¹⁰

The histological examination commonly shows mild orthokeratosis overlying the epidermis.⁹ It has a prominent connective tissue framework,¹⁵ and numerous vellus hair containing follicles with accompanying sebaceous glands in the papillary dermis. There is usually cartilage in the centre surrounded by adipose tissue.⁷

When a child presents with accessory tragi, the patient should be carefully examined and the dentist should refer them to a paediatrician for ruling out any renal or cardiac defects and any other association to a syndrome. Identifying this defect may lead to the discovery of other congenital defects of first branchial arch if any. Early recognition of a potential congenital syndrome is important to direct appropriate evaluation and management and provide anticipatory guidance to families. Thus, dental examination should include an overview of the head and the neck region. It is important and inevitable to inform parents of the origin and significance of AT. Accessory tragi may be related to the mal development of the first and second branchial arches and it may be linked to some syndrome. Dentists can inspire and direct parents for the management of such defects.

Competing interests None.

Patient consent Obtained.

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Learning points

- ▶ Dental examination should include an overview of the head and neck region.
- ▶ Identifying this defect may sometimes lead to discovery of other congenital defects of first and second branchial arch if associated. It may be linked to some syndrome or may be isolated.
- ▶ The patient may be referred to a specialist for routine ultrasonography to evaluate the urinary tract, to assess the rate of coexistence of renal anomalies and also cardiac evaluation to assess cardiac anomalies in children with isolated preauricular tags. It is important to inform parents of the origin and significance of accessory tragus.
- ▶ Dentists on recognising its occurrence can encourage and direct the parents for the management of such defects; correction of the defect improves the aesthetics of facial appearance, children with such defect usually show the concern for aesthetics and teasing from peer group.
- ▶ Referral to a specialist for further evaluation and treatment will eliminate complications in future.

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