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Accessory Tragus

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A 3-week-old girl presented with 3 asymptomatic, skin-colored lesions on the left preauricular area of her face that had been present at birth. There was no significant family history of any congenital deformities, and the pregnancy and birth had been uncomplicated.

On physical examination, the first lesion measured 1.0 cm, the middle lesion measured 0.2 cm, and the third lesion closest to the ear measured 0.6 cm (**Figures 1 and 2**). The largest nodule was pedunculated, and all were skin-colored lesions that were freely movable and palpable with an indurated base. Dermatologic examination of her body revealed no other significant skin lesions. All other examination findings were normal.

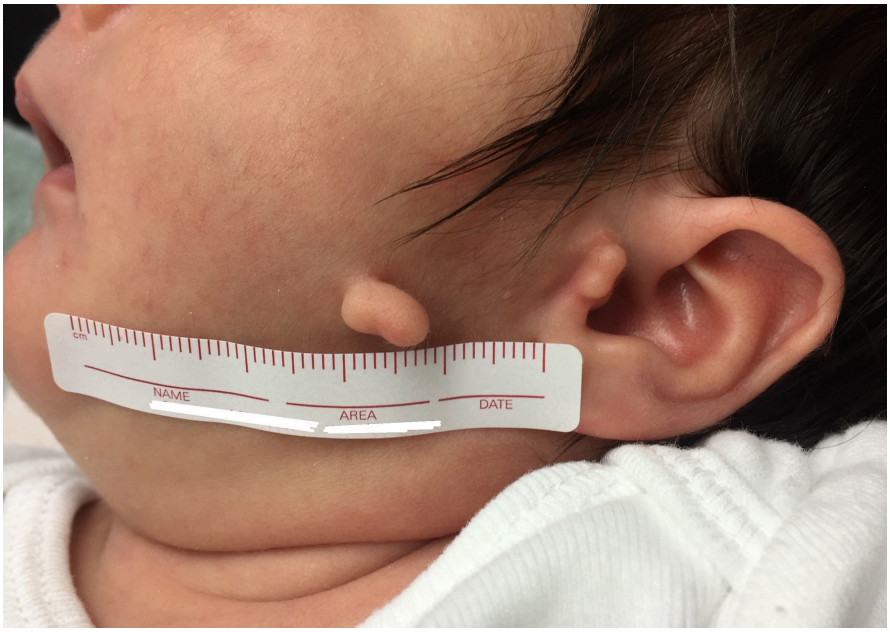

Figure 1. *The patient's 3 skin-colored lesions on left side of the face.*

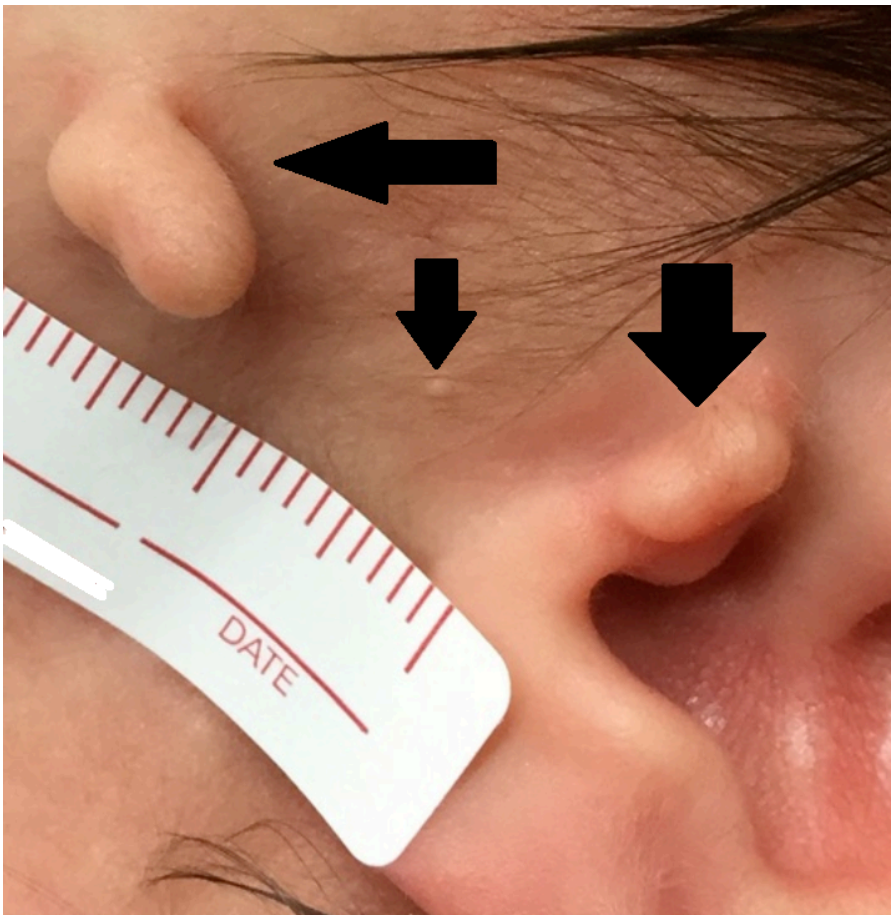

Figure 2. *The patient's 3 facial lesions labeled with arrows.*

The diagnosis of accessory tragus (AT) was made based on the patient's history and physical examination findings. The diagnosis was further confirmed via histopathology results, which showed vellus hair follicles throughout the dermis, an extensive connective tissue network within the subcutaneous fat, and a cartilaginous core surrounded by a fibrous capsule (**Figures 3 and 4**).

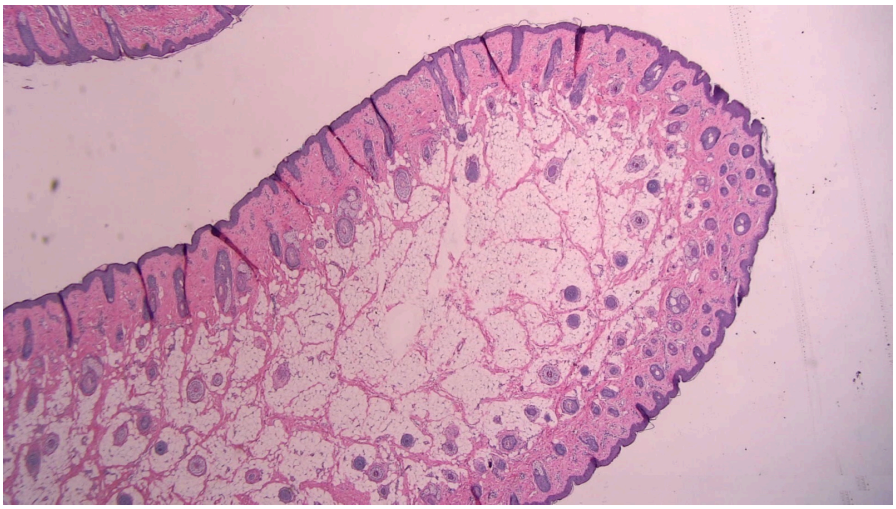

Figure 3. *Hematoxylin-eosin staining revealed numerous vellus hair follicles throughout the dermis and an extensive connective tissue network within the subcutaneous fat.*

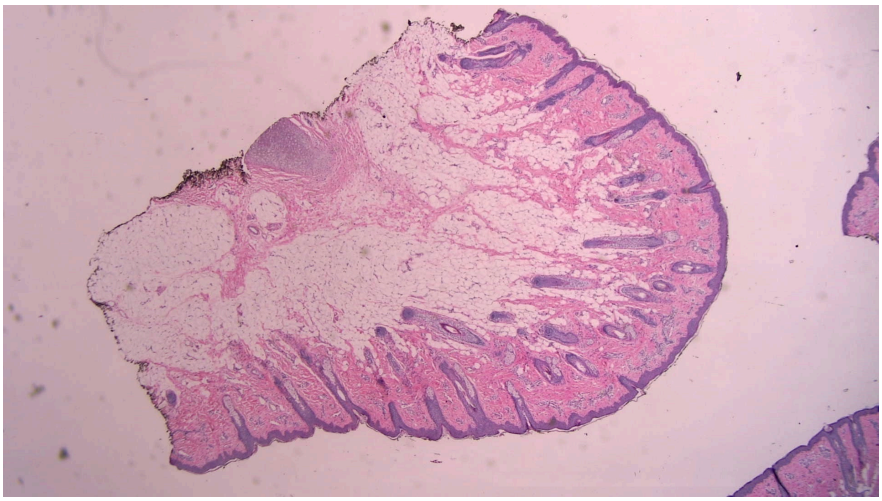

Figure 4. *Hematoxylin-eosin staining revealed a cartilaginous core surrounded by a fibrous capsule.*

Differential diagnoses included acrochordon, adnexal tumor, auricular fistula, branchial cleft cyst, epidermal cyst, hair follicle nevus, lipoma, and thyroglossal cyst.

The 3 ATs were removed via elliptical incision with removal of underlying cartilage. No long-term follow-up is necessary.

Discussion. AT is a benign congenital defect originating from an error occurring during development of the first branchial arch. ATs may present as singular or multiple growths occurring between the tragus and the corner of the mouth.[1] One case of an AT in the nasal vestibule[2] and another case in the middle ear[3] have been reported.

During the fifth and sixth weeks of intrauterine life, soft tissue swellings on the surface of the embryo called hillocks, which are derived from the first and second branchial arches, grow and fuse to become the 3 parts of the ear—the helix, antihelix, and tragus. The first hillock on the first branchial arch forms the tragus. Formation of an AT involves a minor anomaly and failure of complete fusion of the first hillock. ATA typically appear along the migratory line of the auricle from the lower lateral neck to the lateral aspect of the head, roughly at eye level.[4] Auricle formation is generally complete by week 12 of intrauterine life. Of note, the term *accessory tragus* could be considered a misnomer, implying that the accessory tissue derives from hillock one of the first pharyngeal arch. Based on the location of the tissue along the mandible, it likely arises from the first pharyngeal arch, but may have originated from either hillock one, two, or three. Embryology textbooks sometimes use the term *auricular appendage* or *auricular sinus* to denote the uncertainty in origin of the accessory tissue.

The prevalence of a single AT is approximately 0.2% of births, and bilateral lesions are even more rare, occurring in 0.01% of births.[5] There is no specific sex predilection.[6]

Most AT are isolated findings. However, AT may be associated with a variety of syndromes with associated developmental anomalies of the first and second branchial arches. The most notable of these syndromes is Goldenhar syndrome (oculoauriculovertebral syndrome), which is an autosomal

these syndromes is Goldenhar syndrome (oculoauriculovertebral syndrome), which is an autosomal recessive condition for which AT is a constant feature. Additional clinical findings may include epibulbar dermoid cysts, vertebral defects, and auricular disorders. Facial abnormalities may be present, including maxillary and mandibular hypoplasia, antimongoloid slant to the eyelids, and fistulae in front of the tragus.[1,4] Literature reports also suggest that affected patients have an increased risk of renal anomalies, cardiac anomalies, and hearing impairment.[1,4] Less common syndromes that may be associated with AT include Treacher Collins syndrome, Wolf-Hirschhorn syndrome, Townes-Brocks syndrome, and VACTERL association.[1,4]

The diagnosis is based primarily on patient history and physical examination findings. It can be further confirmed via histopathology. Upon gross inspection, an AT appears similar to skin tags and can be differentiated by identifying vellus hair follicles throughout the dermis, an extensive connective tissue network throughout the subcutaneous fat, and possibly a cartilaginous core surrounded by fibrous tissue.[6-8]

The prognosis is generally excellent, without any complications. AT is benign and does not require treatment aside from reassurance, but it may cause emotional distress for patients. For cosmetic purposes, surgical removal may be considered. The best surgical technique is via an elliptical incision with complete removal of all cartilage. Incomplete cartilage removal can result in slow healing or chondrodermatitis.[1,4,9]

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