Interesting Case Series

Microtia in a 9-Year-Old

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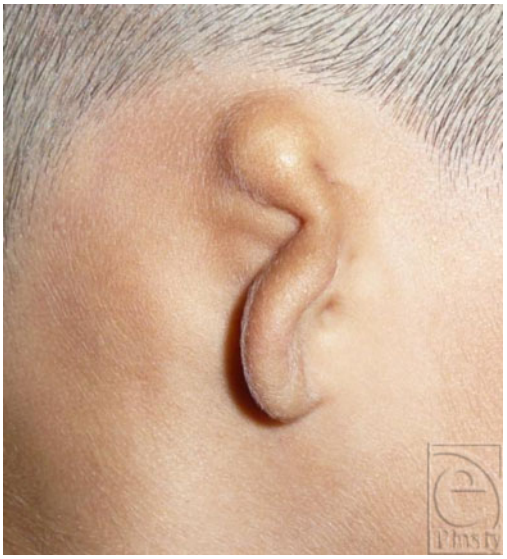


DESCRIPTION

A 9-year-old presents with a right sided microtia.

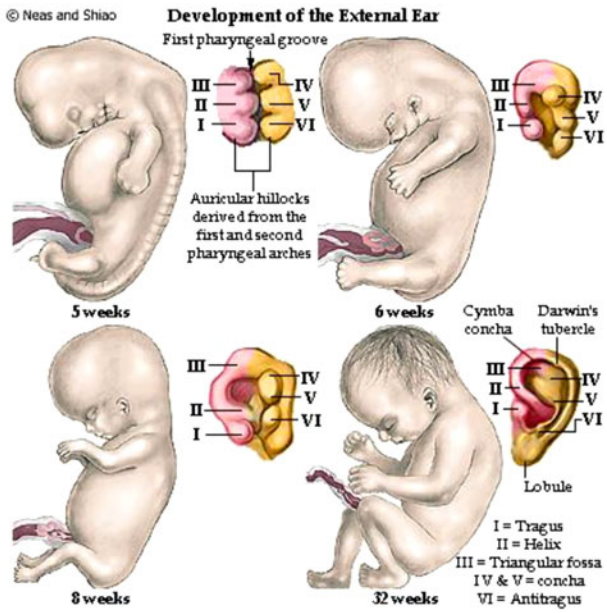
NEXT

QUESTIONS

1. **What are the embryological origins of the external ear?**
2. **Does this child likely have hearing capability in this ear?**
3. **With what syndrome is bilateral microtia likely?**
4. **What surgical approaches are available and what is the optimal age for repair?**
5. **What life-threatening complication can result from surgery to correct this defect?**

DISCUSSION

The auricle is derived from the first and second branchial arches. The tragus, helical crus, and superior helix are derived from anterior hillocks of the first branchial arch and the antitragus, antihelix, and lobule are derived from posterior hillocks of the second branchial arch.



(http://cwx.prenhall.com/bookbind/pubbooks/martini10/chapter18/medialib/developmentofexternalear.html).

Reconstruction of microtia can take place as early as 2 years of age, because the reconstructed ear usually grows normally. However, it is recommended to wait until the child is 4 to 5 years of age because this is when the ear is within 5 to 7 mm of its final vertical height.

Most microtic ears have a conductive hearing loss due to an atretic external auditory canal and tympanic membrane. The middle ear ossicles (especially the malleus and incus) are often deformed. The inner ear develops separately and should be normal. It is generally unnecessary to perform a tympanoplasty to improve hearing because the hearing in the nonmicrotic ear is adequate. If tympanoplasty is performed it should be done after the external ear reconstruction is complete.

BACK NEXT

Microtia most commonly presents unilaterally with right to left to bilateral ratios of 5:3:1. It is twice as common in males as it is in females. Hemifacial microsomia is a common associated deformity. Goldenhar syndrome commonly presents with bilateral microtia.

Surgical treatment consists of the creation of a cartilaginous framework by harvesting costal cartilage. Portions of the 6th through 9th costal cartilages are used, particularly the synchondroses and floating rib. In the first stage of reconstruction the framework is inserted into an auricular skin pocket after careful dissection. Other procedures such as lobule transposition, tragal construction, conchal excavation, and helical rim elevation generally take place during later surgeries. An alternative approach involves placement of a porous polyethylene implant with immediate coverage with a temporoparietal flap and skin graft.

During the harvesting of the costal cartilage there is a risk of life-threatening pneumothorax. Before closing the chest donor site, saline should be used to fill the wound cavity and positive pressure ventilation should be performed. If an air leak is noted, immediate repair is warranted. If the leak persists, a chest tube should be inserted.

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