Fistula auris

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The auricle develops around the first branchial groove. Its tissue is furnished both by the first branchial arch and the second arch (hyoid). During the sixth week six hillocks appear on these parts—three on the caudal border of the first arch and three on the second arch. For many years it was held that the auricle develops in a rather precise manner from these six elevations and from an auricular fold of the hyoid integument. Later restudies of the problem differ in some details even to asserting that the entire auricle, except the tragus, is of hyoid origin.

Defective closure of the first branchial cleft may result in a persistent fistula, opening in 90 per cent of cases close to the anterior border of the ascending limb of the helix. Less commonly the fistula opens somewhere along a line extending between the tragal notch and the angle of the mouth. Rarely the fistulous opening is found elsewhere, on the pinna or lobule. Aural fistulae are lined by stratified squamous epithelium and occasionally incorporate hair or cartilage; they track inwards and may follow a complex course ending blindly as far in as the tympanic ring. Fistulae seldom give rise to symptoms unless they become infected. In this event a chronic discharge or recurrent abscess may necessitate treatment.

Aural fistulae have an upper opening in the floor of the external auditory meatus and a lower at the anterior border of the Sternomastoid behind the angle of the jaw.

The operation requires great care as the track may extend deeply into the soft tissues and be closely related to branches of the facial nerve.

Fistulae share with accessory auricles a tendency to be hereditary.

Discussion

Cases taken up for discussion constitute patients admitted in Calcutta National Medical College Hospitals and those attending out-patients' department. Twelve were cases admitted and operated upon in a period of 5 years approximately. Eight more cases were seen in the out-patients' department; six were asymptomatic, two came with discharging sinus and abscess formation. Two cases producing symptoms refused admission in hospital.

Case No. 9 showed an opening at concha opposite antitragus, another at the middle of antihelix. The tract ran partly in the substance of the cartilage.

Case No. 10 showed one opening at the lower-most part of concha, another opening a little above the angle of the mandible. Patient came with discharge from the lower opening of the tract. During dissection the lower opening of the tract had ramified into two branches, one moving upwards, another forwards and anteriorly.

Case No. 11, two openings. One in the anterior aspect of the crus helix,

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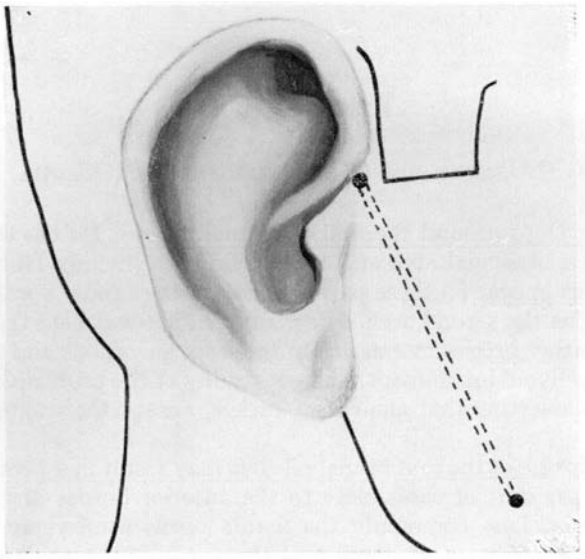


FIG. 1.
Sinus at the ascending limb of helix—$3\frac{1}{2}$ in. ending at the mandible.

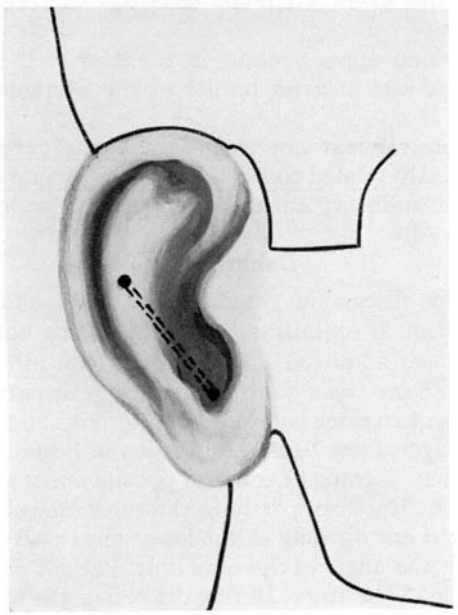


FIG. 2.
Opening at concha opposite antitragus—another opening near middle of anti-helix. Running partly in the substance of cartilage.

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PRE AURICULAR SINUS

Case No.	Name	Age (yrs) and sex	Complaints	Unilateral or bilateral	Nature of sinus	Result
1	S.R.	32—M	Discharging sinus	Right side	Opening at the ascenbing limb of helix. Tract 1 in. in length towards angle of mouth	Cured
2	R.K.	8—F	Discharging sinus with abscess formation (right side)	Bilateral right side symptom producing	Opening at the ascending limb of helix. Tract 1½ in. towards malar bone. Upper part blended with auricular cartilage	Cured
3	K.	6—M	Discharging sinus	Right	Opening at the ascending limb of helix ½ in. in length towards angle of mouth	Cured
4	A.S.	5—F	Discharging sinus with abscess formation	Left	Opening at the ascending limb of helix ¾ in. in length towards angle of mouth.	Cured
5	B.G.	7—M	Discharging sinus	Left	Sinus at the ascending limb of helix—3½ in. ending at the mandible	Cured
6	S.	8—F	Discharging sinus with abscess formation	Bilateral left side symptom producing	Opening at the ascending limb of helix ¾ in. in length towards angle of mouth	Cured
7	K.S.	10—M	Discharging sinus. Both sides	Bilateral	Opening at the ascending limb of helix 1 in. in length towards malar bone	Cured
8	G.S.	8—M	Discharging sinus	Left	Opening at the ascending limb of helix ½ in. towards angle of mouth.	Cured
9	F.	16—F	Discharging sinus with abscess formation	Right	Opening at concha opposite antitragus—another opening near middle of anti-helix. Running partly in the substance of cartilage	Recurrence—did not come for follow-up
10	M.	10—F	Discharging sinus at lower end	Right	One opening at the concha. Another a little above the angle of mandible 2½ in. in length	Cured
11	D.K.	5—M	Discharging sinus	Right	One opening anteriorly at the crus of helix another opening posteriorly at the crus running in the substance of cartilage—½ in. in length	Cured
12	B.M.	2—M	Discharging sinus	Left	Opening at the ascending limb of helix ¾ in. in length towards angle of mouth. Had a lop ear	Cured

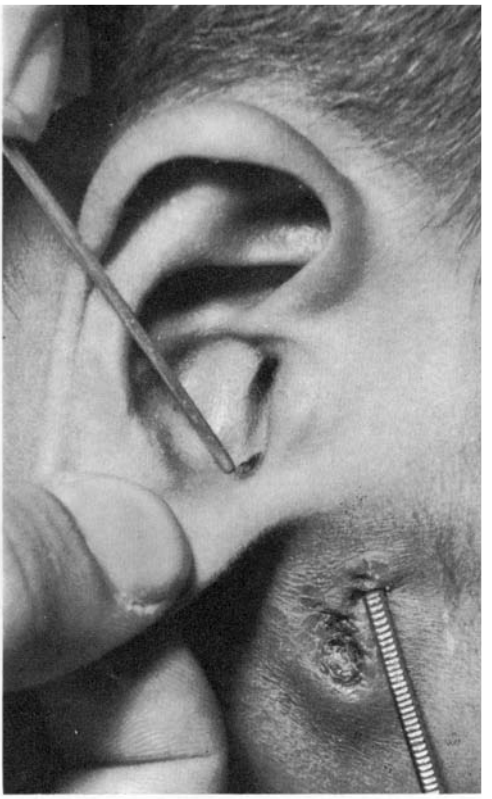


FIG. 3.
One opening at the concha. Another a little above the angle of mandible $2\frac{1}{2}$ in. in length.

another in the posterior aspect of the crus. Tract running in the substance of the cartilage.

Other features—three cases who came with discharging sinus and abscess formation, had ultimately the skin over the abscess sloughed out. During the process of excision of the tract, a defect in the skin was obvious. All necrotic tissues in the vicinity removed. Skin from the face mobilized and margins stitched up. There was no facial deformity and the wound had completely healed up. On all occasions skin margins were stitched following removal of the tract and the wound healed up.

Incidence

Anatomical anomaly producing symptoms noted commonly in the age group of 6–10 years, and then in the age group of 1–5 years. Case No. 1 came to us at the age of 32 years, when a proper diagnosis of preauricular sinus with abscess formation was made: previous to this the abscess was erroneously incised several times with recurrence. Thirteen were males and seven females. Three cases out of a total of twenty had bilateral preauricular sinus.

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FIG. 4.
One opening anteriorly at the crus of helix another opening posteriorly at the crus running in the substance of cartilage—$\frac{1}{2}$ in. in length.

Associated abnormality
Only one case had a lop ear (Case No. 12).

Length of the tract
Usually $\frac{1}{2}$ in. to $\frac{3}{4}$ in. Case No. 5 had a length of $3\frac{1}{2}$ in. and case No. 10 had a length of $2\frac{1}{2}$ in. In none of the cases it could be found in other members of the family.

Summary

Twenty cases of preauricular sinus with interesting features are being reported.

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