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Type 2 First Branchial Cleft Cyst Presenting as Childhood Deafness

Sir,

Childhood deafness is commonly attributed to entities like genetic (40%) and non-genetic (19%) causes like infections. Forty-one percent have no ascribed etiology.[1] A 14-year-boy presented with childhood deafness in the left ear. On examination of the left ear, conductive deafness and obliteration of the external auditory canal (EAC) was noted. The computed tomography scan showed features of EAC atresia. Microscopy of the sample obtained from canaloplasty showed components of ectodermal and mesodermal elements. Stratified squamous lining epithelium, folliculosebaceous units, ceruminous glands, fibrocartilagenous tissue [Figure 1a], lymph node tissue [Figure 1b] and few skeletal muscle fibers were seen.

First branchial cleft anomalies are due to incomplete closure

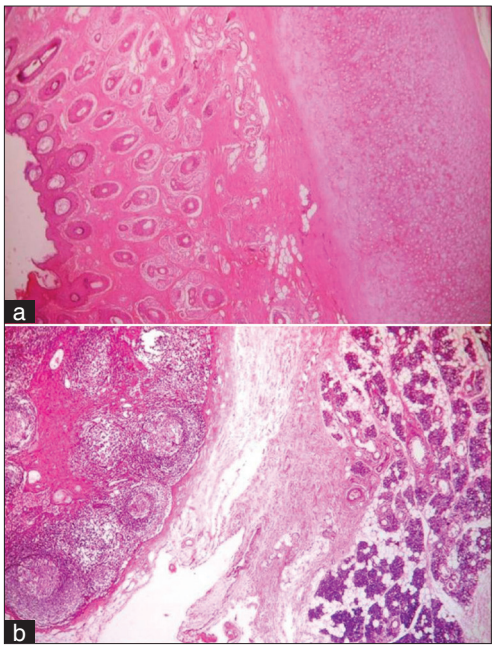

Figure 1: Cyst wall composed of skin, adnexal structures, ceruminous glands, cartilage (a) and lymphoid follicle formation along with salivary gland tissue (b) Hematoxylin and eosin; ×10

of the cleft. Obliteration of the cleft proceeds from ventral to dorsal and, hence, is commonly located in the Poncent's triangle, which is limited by EAC above, mental region anteriorly and hyoid bone inferiorly.[2] Type 1 anomalies present as a cystic mass and are purely ectodermal. It contains squamous epithelial structures and no adnexal structures, while type 2 anomalies present as a cyst, sinus or fistula or any combination and are of ectodermal and mesodermal in origin containing squamous epithelium, adnexal structures or cartilage. Presence of lymph node indicates recurrent infection.[3-5]

Clinical differential diagnosis includes parotid tumor, Hodgkin disease, lymphoma, tuberculosis and parotitis.[2] Microscopically, lymphoepithelial cyst is a differential diagnosis. But, the presence of mesodermal components favors type 2 cyst.[4]

In our case, the lesion recurred obliterating the EAC and there was no recovery from conductive deafness. Type 2 cysts are known to recur if the surgical excision is incomplete. Definitive treatment is complete excision with wide exposure, and sometimes requiring parotidectomy and exposure of the facial nerve.[5] Early diagnosis and proper treatment are needed to avoid recurrent infection and secondary development of fistulous tract.

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