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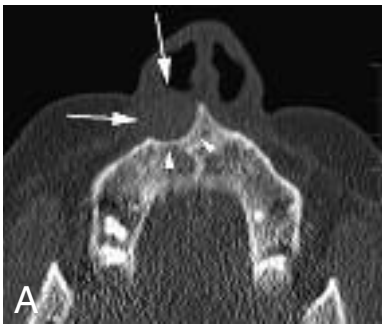
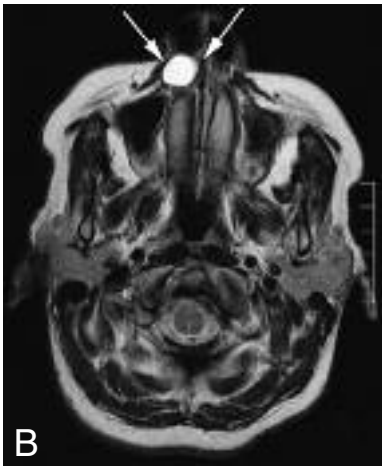
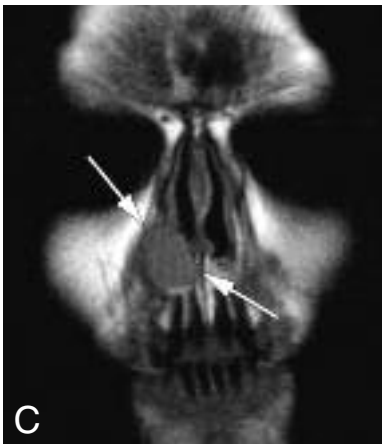
IMAGES IN CLINICAL RADIOLOGY







Nasolabial cyst

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A 50-year-old woman was admitted to the department of Head and Neck Surgery with a slowly growing subcutaneous facial swelling at the base of the nose. The lesion caused a protuberance of the upper lip, at the right nasal aperture, and partial obstruction of the right nostril. At physical examination, the mass was smooth, round and mobile. It was visible through the upper oral vestibule, causing a blue discoloration of the oral mucosa.

Axial non-enhanced CT-scan (Fig. A) confirmed the presence of an oval, well defined and homogeneous lesion (arrows) in the deep nasal region, lateral to the anterior nasal spine. Local bone remodeling of the maxilla was present due to pressure erosion (arrowheads). Coronal multiplanar reconstructed (MPR) CT-image (not shown) showed extension of the lesion in the nasal vestibule. Based on the combination of the typical paramedian topography, the clinical findings and imaging characteristics, the diagnosis of a nasolabial cyst was made.

MR imaging was performed to confirm the cystic nature of the lesion. T2-weighted images (WI) (Fig. B) showed a homogeneous, hyperintense signal intensity (arrows) while the lesion (arrows) was of intermediate signal intensity on T1-WI (Fig. C). After intravenous injection of a Gadolinium-contrast, the lesion showed faint peripheral rim enhancement (not shown), whereas the center did not enhance. The lesion was successfully removed by sublabial enucleation. Histological examination showed an epithelial lining of the cyst walls, with interspersed goblet cells.

Comment

The nasolabial cyst – also known as nasoalveolar cyst or cyst of Klestadt – is a benign lesion, first described by Zuckerkandl in 1882. Two conflicting theories about its etiology exist. The first theory states that it represents a fissural (inclusion) cyst developing from trapped embryonic nasal epithelium between emerging maxillary and medial and lateral nasal processes. According to the second theory, the cyst is believed to grow out of embryonic remnants of the nasolacrimal groove. This groove separates the maxillary and the nasal processes and after canalisation, its superior part becomes the nasolacrimal duct. The second theory is more likely to be correct. Histologically, the cyst is lined with respiratory epithelium with interspersed goblet cells. The cysts are filled with a serous fluid. Nasolabial cysts are rare, with a prevalence of 1/25000. Females are two to three times more likely to be affected then males. Most cases are discovered in the 4th or 5th decade of life. Bilateral cysts are found in up to 10% of cases.

Lesions are often asymptomatic; symptoms usually arise from nose obstruction or local swelling. In about half of the cases, infection of the cyst occurs. In those cases spontaneous drainage of the cyst to the nasal or oral cavity has been described.

On CT imaging, the diagnosis is based on its typical paramedian location in the nasal area and its non aggressive cystic appearance (round or oval shape, and potential remodeling of adjacent bone due to pressure erosion).

On MR imaging, a nasolabial cyst typically has a hyperintense signal intensity on T2-WI, an intermediate signal on T1-WI and there is no enhancement on T1-WI after administration of a Gadolinium contrast. Some cysts contain hyperdense sediment on CT, which may also alter the MR-signal intensities. This sediment is caused by calcium oxalate crystals and is referred to as "milk-of-calcium".

Differential diagnosis includes odontogenic and non-odontogenic lesions. The most significant differential diagnosis consists of a nasopalatine duct cyst which is located at the midline.

The preferred treatment of a nasolabial cyst is enucleation, either via a sublabial approach or through endoscopic marsupialization. When surgery is performed well, recurrence is very unlikely.

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