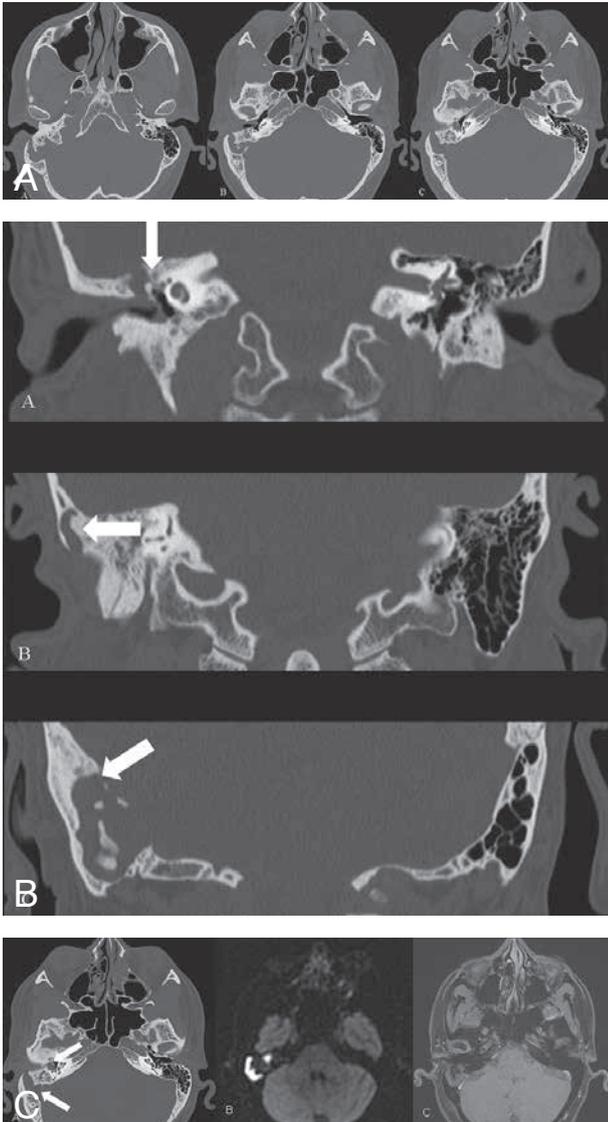


IMAGES IN CLINICAL RADIOLOGY



Serpiginous cholesteatoma mimicking a vascular channel

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A 36-year-old male who had history of hearing loss since childhood presented with a chronically discharging right ear.

HRCT temporal bones revealed non-dependent opacification in the epi- and meso-tympanum with medially displaced head of malleus, erosion of incus and the tegmen tympani suspicious for an attic cholesteatoma. In addition, there was a serpiginous structure seen extending across the posterior aspect of the mastoid temporal bone which was thought to represent a trans-mastoid emissary vein. MRI subsequently performed showed both the lesions (in the middle ear cavity and the serpiginous structure in the mastoid) were hyperintense on Propeller DW (b value 1000 sec/mm²) sequence suggesting 2 cholesteatomas. The serpiginous structure in the mastoid did not show post contrast enhancement thus excluding a vascular lesion. A canal wall down mastoidectomy was done which confirmed both the findings.

Comment

The imaging appearance of cholesteatomas has been extensively discussed in the literature. On HRCT, cholesteatoma generally presents as locally aggressive soft tissue mass causing ossicular and bony erosions. It is classically known to be hyperintense on Propeller Diffusion weighted (type of Non-EPI sequence) sequence and do not show post contrast enhancement.

Imaging of the soft tissue in the middle ear cavity in our case was classical for an acquired cholesteatoma on CT and MRI.

The serpiginous structure in mastoid bone had well-defined scalloped margins on HRCT prompting it to represent a vascular channel. MRI subsequently performed and mainly the Propeller DW sequence had classical features for cholesteatoma thus changing the surgical plan. Given the lack of local aggressiveness and its posterior location, it may have represented a congenital cholesteatoma.

A serpiginous cholesteatoma is an extremely rare form of presentation. We suggest that in cases of atypical findings

on HRCT, radiologists must avail MR imaging if possible, as it can alter treatment options, as in this case.

Reference

1. Barath K., Huber A.M., Stampfli P., et al.: Neuroradiology of cholesteatomas. *AJNR Am J Neuroradiol*, 2011, 32: 221-229.

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