Baro-otolagia Secondary to Cholesteatoma

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Abstract:

BACKGROUND: Baro-otalgia is a common complaint among passengers in an aircraft, in particular those who had a recent upper respiratory tract infection. The underlying pathophysiology is secondary to unequal aeration of the middle ear cleft with the surrounding atmosphere and it can be explained using Boyle’s Law. We describe an unusual presentation of baro-otalgia in a pilot secondary to cholesteatoma obstructing the aditus despite normal middle ear pressure equalization provided by a grommet in the ear.

CASE REPORT: A 26-yr-old pilot with a presenting complaint of conductive hearing loss was diagnosed and treated for congenital cholesteatoma. His hearing improved, but 4 yr later he developed ear pain during the cruising phase of flight at an altitude of 9144 m (30,000 ft) above sea level. This pain persisted until descent to 4876 m (16,000 ft). Despite insertion of a middle ear ventilating tube, he remained symptomatic, requiring further investigation. This led to the diagnosis of recurrent cholesteatoma obstructing the aditus to the mastoid cavity. Upon surgical removal of the cholesteatoma, symptoms resolved.

DISCUSSION: We hypothesize that the recurrent cholesteatoma caused obstruction to normal aeration of the mastoid air cells during the changing atmospheric air pressure, thus producing pain. This is akin to sinus barotrauma instead of the usual pathophysiology underlying barotitis.


Keywords: baro-otitis; congenital cholesteatoma; sinus barotrauma

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