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"Superior semicircular canal dehiscence in chronic ear disease: is it clinically relevant?"

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This retrospective chart review was performed in order to investigate if radiographic evidence of superior semicircular canal dehiscence (SSCD) in patients with chronic otitis media (COM) coincides with symptomatic manifestation of SSCD syndrome. The study population consists of 848 patients (1696 temporal bones) who underwent surgery and high-resolution computed tomography (HRCT) of their temporal bones for chronic ear disease. HRCT of each ear was reviewed for SSCD or thinning. Presence and site of cholesteatoma/COM, subjective symptoms, and vestibular testing were ascertained for those with radiographic SSCD or thinning. Outcome measures included assessing the presence of subjective and objective manifestation of SSCD syndrome in patients with COM, chronic otomastoiditis, and/or cholesteatoma with radiographic evidence of SSCD or thinning.

Of the 1696 temporal bones and superior semicircular canals analyzed, 44 (2.6%) were dehiscent, 103 (6.1%) were thin, and 1549 (91.3%) were normal. 86 temporal bones had both COM and SSCD or thinning. Of these, 23 (26.7%) were dehiscent and 63 (73.3%) were thin. 82 (95.3%) had evidence of chronic otomastoiditis and 32 (37.2%) had cholesteatoma. Locations of cholesteatoma included epitympanum (75.0%), tympanic cavity (62.5%), mastoid (62.5%), and protympanum (3.1%). Only six ears (7.0%) had true vertigo and three (3.5%) had pulsatile tinnitus. None had autophony, sound-induced vertigo, or pressure-induced vertigo. cVEMP was obtained on eight ears; four were normal and four were absent. Four ears underwent Tullio and fistula testing; none were abnormal. No superior canals were repaired surgically for SSCD syndrome. In conclusion, Although COM may increase the radiographic presence of SSCD, it may not necessarily increase the risk of symptomatic manifestation of SSCD syndrome.