

Estudio número 4

Screening del conducto auditivo interno con RMN: ¿Es necesario el gadolinio para detectar schwannomas intralaberínticos?

La resonancia magnética sin contraste utilizando T2WI (imagen ponderada en T2) ha sido propuesta como el método de despistaje primario en pacientes con sordera neurosensorial de instauración brusca o asimétrica. Aunque existen dudas acerca de que la RMN sin contraste pueda detectar patología intralaberíntica, específicamente schwannomas intralaberínticos. El objetivo de este estudio fue determinar si la RMN ponderada en T2 en alta resolución y sin contraste es adecuada para excluir estos raros tumores intralaberínticos.

Se comparan estudios con y sin contraste realizados en 31 pacientes con patología intralaberíntica, y 36 pacientes sin patología del ángulo pontocerebeloso. Las 67 RMN fueron analizadas por varios neurorradiólogos de la Clínica Mayo (EE.UU.) tras ver únicamente la RMN sin contraste (T2WI).

Se utilizó la RMN con contraste como gold standard.

Los resultados determinaron que la RMN sin contraste de alta resolución (T2WI) puede detectar schwannomas intralaberínticos con una sensibilidad de entre 84 y 100%, dependiendo del observador, sugiriendo que el gadolinio puede ser innecesario para el despistaje de dichos tumores mediante RMN. Estos hallazgos, aunque se trata de estudios con bajo nivel de evidencia, pueden tener implicaciones para la reducción de costes, tiempo y efectos adversos relacionados con el uso del gadolinio.

MRI screening of the internal auditory canal: Is gadolinium necessary to detect intralabyrinthine schwannomas?

Objective: Non-contrast MRI of the internal auditory canal (IAC) using high-resolution T2WI (T2 weighted image) has been proposed as the primary screening study in patients with sudden or asymmetric sensorineural hearing loss (ASNHL). However, there are concerns that non-contrast MRI may not detect labyrinthine pathology, specifically intralabyrinthine schwannomas (ILSs). The purpose of this study was to determine if non-contrast high-resolution T2WI alone are adequate to exclude these uncommon intralabyrinthine tumors.

Methods: 31 patients with ILSs and 36 patients without inner ear pathology that had dedicated MRI of the IAC performed with both non-contrast T2WI and post-contrast T1WI (T1 weighted image) were identified. Three board-certified neuroradiologists reviewed only the T2WI from these 67 cases. When an ILS was identified, its location and size were recorded. Sensitivity, specificity, and accuracy were calculated using the post-contrast T1WI as the "gold standard." A consensus review of cases with discordant results was conducted.

Results: The sensitivity, specificity, and accuracy were 1.0, 1.0, and 1.0 for Observer 1; 0.84, 1.0, and 0.96 for Observer 2; 0.90,

1.0, and 0.98 for Observer 3. The 5 ILSs with discordant results were correctly identified upon consensus review. The median size of the ILSs was 4.4mm (± 2.9 mm) and most (18/31) were intracochlear in location.

Conclusion: Non-contrast high-resolution T2WI alone can detect ILSs with 84-100% sensitivity, suggesting that gadolinium may be unnecessary to exclude ILSs on screening MRI. These findings have implications for reducing cost, time, and adverse events associated with gadolinium administration in patients presenting with sudden or ASNHL.

Level of evidence: 4.

Keywords: Gadolinium; Intralabyrinthine schwannoma; Magnetic resonance imaging; Sensorineural hearing loss; Sudden sensorineural hearing loss

PMID: 29273441

DOI: 10.1016/j.amjoto.2017.12.009

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