What is the most common pattern of hearing loss associated with acoustic neuroma?

Evidence-Based Answer
Asymmetric sensorineural hearing loss (ASHL) >15 dB at 3,000 Hz is a fairly strong predictor of acoustic neuroma (AN). A more restrictive protocol intended to reduce MRI scans further requires a >20-dB difference if the pure-tone threshold in the better hearing ear is reduced (>30 dB). (SOR: B, based on retrospective cohort studies.)

A retrospective cohort analysis compared 74 patients with known AN (48% women, mean age=52 years) with 48 control patients (71% women, mean age=41 years) to determine the best audiometric criteria for referral for MRI evaluation. ASHL >15 dB at 3,000 Hz (OR 6.6; 95% CI, 2.5–17; P<.001) and absence of vertigo (OR 6.2; 95% CI, 2.2–17; P=.001) were highly predictive for AN.

A vestibular deficit >25% by electronystagmography and caloric testing was also associated with AN, but did not significantly contribute to the predictive probability for AN. The symptoms of tinnitus and dizziness were not linked to AN. When the cutoff for a positive test (asymmetric ASHL >15 dB at 3,000 Hz) was assigned a 50% probability, the receiver operating characteristic curve showed 73% sensitivity and 76% specificity for AN, and the area under the curve was 0.826.

A retrospective review of 500 patients (>15 years of age) with ASHL >15 dB (all of whom had undergone MRI evaluation) attempted to assess the prevalence of tumor associated with each configuration of the pure-tone audiogram. The overall prevalence of AN among these patients was 2.6% (13 of 500). No specific audiometric configuration was identified that predicted AN.

A retrospective cohort study of 392 MRI scans analyzed 4 published protocols, as well as guidelines published by the United Kingdom Ministry of Health and the American Academy of Otolaryngology-Head and Neck Surgery, to attempt optimum identification of patients with ASHL most appropriate for MRI evaluation to exclude AN. In this cohort, 36 patients with AN were identified; 32 patients had ASHL, 19 also had tinnitus and 11 had dizziness.

The optimal combination of sensitivity (97%) and specificity (49%) was produced using a criterion of >15-dB difference at 2 adjacent frequencies if the mean threshold in the better hearing ear was ≤30 dB and a 20-dB difference if the mean threshold in the better hearing ear was >30 dB. Application of this protocol would have saved 174 MRI scans in this cohort.

Do antiangiogenic injections slow or reverse vision loss in patients with wet macular degeneration?

Evidence-Based Answer
Intravitreal injections of antiangiogenesis medications reduce the risk of further vision loss in patients diagnosed with wet macular degeneration. There is also evidence that these injections can sometimes improve vision in these patients. (SOR: A, based on a systematic review.)

Age-related macular degeneration (AMD) is the leading cause of irreversible vision loss in the United States. Traditional treatments to prevent vision loss have been ineffective. In wet AMD, choroidal neovascularization leads to hemorrhage, leakage of fluid, and eventual scarring in the retina. Intravitreal injection of antiangiogenic factors targeting vascular endothelial growth factor (VEGF) has emerged as a relatively new therapy for wet AMD.

A meta-analysis reported the outcomes of 5 RCTs, which included 2,484 patients at least 50 years of age with wet AMD. All RCTs were double-blinded and examined the effects of drug injections every 4 to 6 weeks compared with sham injections. Injections of pegaptanib (a small-molecule inhibitor of VEGF) were continued for 48 weeks, while injections of ranibizumab (an anti-VEGF monoclonal antibody) were continued for 96 weeks. Follow-up was at least 1 year. The endpoint was reduction of moderate visual acuity loss, defined as the proportion of patients who lost fewer than 15 letters of visual acuity (3 lines on the study eye chart).