

Audiological Evaluation of Vestibular Schwannoma Patients with Normal Hearing

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Abstract

Objective: To evaluate the audiological aspects of vestibular schwannoma (VS) patients with normal hearing.
Study Design: Retrospective study.

Setting: Quaternary referral center for skull base pathologies.

Patients: The records on 4,000 patients who had been diagnosed with VS between 1986 and December 2017 were retrospectively reviewed. The patients included in the study were the ones who complied with the strict audiological normality criteria, as follows: a pure tone hearing threshold (at the 6-octave-spaced frequencies from 250 to 8,000 Hz) ≤ 25 dBHL; a word recognition score $> 90\%$; and interaural differences ≤ 10 dB at each frequency.

Interventions: Auditory brainstem response (ABR) testing and radiological imaging.

Main Outcome Measures: The incidence of normal objective hearing among VS patients, and the diagnostic utility of the ABR and the effect of tumor size and site on the response.

Results: The incidence of normal hearing among VS patients was 4.2%. Tinnitus and vertigo were the most common symptoms across tumor grades; 5.6% of the tumors were large and giant tumors. The ABR yielded a sensitivity of 73.6%, with a false negative rate of 26.3% using a cutoff point of 0.2 ms for interaural latency differences.

Conclusions: The diagnosis of VS should not be based on audiometric thresholds alone. Alarming signs of VS should be clear to the physician in order not to miss or delay the diagnosis of the disease. The ABR is useful in the diagnosis of VS, but normal results do not exclude the occurrence of the disease in patients with normal hearing.



Biography

Graduated as one of the top of his class from faculty of medicine Alexandria university, Egypt. Dr Galal started a 10 years career of ORL with focus on otology and lateral skull base surgery of which 2 years spent as a clinical fellow at Gruppo otologico, Piacenza, Italy under Professor Mario Sanna and short observer-ships in both Causse clinic France and Dresden University, Germany. Currently, he is a lecturer and consultant of otology and neurotology at the same university. Dr Galal is interested in teaching, training and research of this sub-specialty. He has already participated as a tutor in many temporal bone dissection and endoscopic ear surgery courses in Alexandria, Cairo Egypt and in Italy. He is a member of the International Working Group on Endoscopic Ear Surgery and a fellow of the European board of ORL/HNS. Dr Galal has also a couple of publications regarding cochlear implant surgery.

Publications

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