THE VALIDITY OF AUDITORY BRAIN STEM ACOUSTIC RESPONSE IN DETECTION OF VESTIBULAR SCHWANNOMA

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Abstract

This study was conducted on 41 patients suffering from unilateral hearing loss suspected to have a retrocochlear lesion to evaluate the accuracy of Auditory Brainstem Response (ABR) and magnetic resonance imaging (MRI) in detection of vestibular schwannoma. Pure tone and speech audiometry, tone decay tests, immittancemetry and ABR were done. Magnetic resonance imaging with gadolinium enhanced axial TI weighted images was also made. Thirty-five patients (85%) were complaining of tinnitus whereas unsteadiness was the complaint of 19 patients (46%). No patients had the evidence of facial nerve dysfunction. Six patients (15%) demonstrated significant retrocochlear pathology on MRI evaluation. Two out of those 6 patients were not detected by ABR evaluation, in one of them the lesion was 1.5 cm and in the other it was an intracanalicular lesion less than 1 cm diameter. The remaining 4 patients showed ABR abnormalities. The sensitivity of ABR in this study was lower than the previous studies. So the development of an efficient protocol using single modality is difficult. The use of MRI as a screening tool has clinical merit but there are some practice problems including cost, availability, patient obesity, etc. More important not all retrocochlear lesions are space occupying and the lesion may be on the cellular level and can not be diagnosed radiologically.

Introduction

The Auditory Brain Stem Response (ABR) is the most sensitive audiologic test in screening for the presence of vestibular schwannoma. It will detect more than 90%