Preoperative High Resolution CT and MR Imaging in Cochlear Implantation

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Abstract

Introduction: Accurate preoperative imaging of the temporal bone in patients receiving cochlear implants is important. High resolution computed tomography (HRCT) and magnetic resonance (MR) imaging are the 2 preoperative imaging modalities that provide critical information on abnormalities of the otic capsule, pneumatization of the mastoid, middle ear abnormalities, cochlear ducts patency and presence of cochlear nerve. Materials and Methods: The HRCT and MR imaging in 46 cochlear implant patients in our department were reviewed. Results: Majority of our patients [34 patients (73.9%)] showed normal HRCT of the temporal bone; 5 (10.9%) patients had labyrinthitis ossificans, 2 (4.3%) had Mondini's abnormality and 2 (4.3%) had middle ear effusion. One patient each had high jugular bulb, hypoplasia of the internal auditory canal and single cochlear cavity, respectively. Conclusion: The above findings contribute significantly to our surgical decisions regarding candidacy for surgery, side selection and surgical technique in cochlear implantation.

Key words: Labyrinthitis ossificans, Michel aplasia, Mondini deformity

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