Incidental finding on MRI scans of patients with audiovestibular symptoms

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Introduction: Magnetic Resonance Imaging (MRI) is considered the gold standard in detecting cerebellopontine angle (CPA) or internal acoustic meatus (IAM) lesions such as vestibular schwannoma in patients presenting with unilateral audiovestibular symptoms; sensorineural deafness, tinnitus and vertigo. However, vestibular schwannoma is rare in both patients with audiovestibular symptoms and in the healthy population. It is therefore much more likely for otolaryngologists to encounter the report of an incidental finding in the imaged brain than a vestibular schwannoma itself.

Aim: To determine the frequency of these incidental findings and to determine the best next steps in counseling and investigations when they arise.

Materials & Methods: We retrospectively reviewed all MRI IAM scan reports during a 3 month period at the Radiology Department at Blackpool Victoria Hospital, Blackpool, Lancashire, UK, noting relevant IAM and incidental findings.

Results: Out of the 109 scans, eight scans were reported to have abnormal IAM; one was found to have a small vestibular schwannoma (0.9%) and seven had vascular loops (6.4%). The remaining 101 scans were reported as having normal IAM (92.7%). However, two scans needed further action as a deep lobe parotid tumor and an empty sella with benign intracranial hypertension were found (1.8%). 45 of the 101 scans (41.3%) showed various incidental findings such as age related ischemic changes and small vessel disease, sinonasal disease and benign neurological pathologies. 54 of them (53.5%) were found to be entirely normal.

Conclusion: Our study demonstrated that almost half of the scans were reported with incidental findings albeit only two patients needed further action. Otolaryngologists should have a basic understanding of the significance of the most commonly encountered incidental findings and be able to appropriately counsel their patients with reassurance or an initial explanation of the implications of the finding and any onward referral.

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