Should the Obholzer criteria be widely adopted to screen for vestibular schwannoma? An audit

Sara Timms, Chris Skilbeck Department of ENT/Head and Neck Surgery, Guy's and St Thomas' NHS Foundation Trust

Background:

- Vestibular schwannoma (VS) is a benign tumour of the eighth cranial nerve that most commonly presents with unilateral hearing loss
- MRI screening costs around £130 per scan¹

MRI indicated for:
"An interaural difference at two adjacent frequencies of 15dB in unilateral hearing loss and 20dB in bilateral hearing loss"²

Aims:

- Are we using MRI appropriately?
- Can we limit the use of clinic time to report normal results?

Method:

Included: all MRIs of the internal acoustic meatus trust-wide, 1 July – 30 August
Excluded: known VS, MRI for cholesteatoma or cochlear implant planning, neurofibromatosis patients, age <18

- Scans divided by indication and grade of clinician
- Audiograms screened using above criteria
- Second cycle: further two-month period audited (1 March – 30 April 2016)
- Follow up to give scan results analysed – clinic or letter?

First cycle results:

- 350 scans in two months, of which 144 included
- 63 (44%) met audiological criteria
- 3 new VS identified, all fulfilled audiological criteria

Second cycle results:

- 302 scans in two months, 102 included within audit criteria
- No new VS identified
- 48 (47%) met MRI criteria

Interventions:

- Data presented at ENT departmental meeting
- MRI criteria reminder
- Discussion around tinnitus without hearing loss
- Departmental discussion of strategy for communicating negative results

Discussion and further intervention:

- Overall pick-up rate 1.2% (other studies 1.7%,¹ 2.0%³)
- Fewer scans performed for VS in second cycle
- Small increase in percentage fulfilling criteria
- Large increase in follow-up by letter for negative results
- Several authors have suggested MRI criteria, none is widely adopted
- Do doctors feel responsible for 'ruling out' VS in every patient with asymmetrical SNHL? – Litigious society
- Tinnitus alone is considered indication for MRI by some
- Further research and careful stewardship is needed

BACO Conference Manchester July 2018

¹Prior, M. 2015. Protocols to determine which patients with asymmetric hearing need an MRI scan to screen for an acoustic neuroma www.hra.nhs.net Accessed 9/7/16
²Obholzer, RJ, Harcourt, JP. 2004. Magnetic resonance imaging screening for vestibular schwannoma: analysis of published protocols. J Laryn Otol, 118, 329-332
³Fraser, L, et al. 2015. Audiology involvement in vestibular schwannoma screening. Bulletin R Coll Surg Eng, 97 (9), e58-60