Retrospective Investigation of Contralateral Hearing Thresholds of Patients with Sporadic Vestibular Schwannoma under “Wait & Scan” or Different Therapeutic Strategies

Nicole Peter, Alexander Huber, Simon Egli, Ulrike Held, Klaus Steigmiller, Christof Röösli

Objective
The aim of this study was to investigate the contralateral hearing of patients with sporadic vestibular schwannoma (VS).

Methods
In this retrospective cohort study, pure-tone audiograms of the contralateral ear from patients with a wait & scan strategy were compared to the ones who received therapy (radiotherapy or surgery). Due to a possible bias caused by the therapy, hearing thresholds before and after therapy were compared separately with the wait & scan group. Age-normalized hearing thresholds of the contralateral ear from patients with a wait & scan strategy were compared to ones who received therapy.

Results
From 1979 to 2017, 557 patients with sporadic VS could be included in the study. Of these, 233 received regular controls in the sense of wait & scan and 263 underwent therapy, of which 184 audiograms before and 144 audiograms after therapy were available (Fig. 1). There was no evidence for a difference in the contralateral hearing of patients with sporadic VS between the wait & scan and therapy groups. Additionally, the mean difference of hearing thresholds in our sample to norm values was found to be larger for the high frequencies, and more pronounced in male patients (Fig. 2).

Conclusion
The contralateral hearing of patients with sporadic VS did not differ between the wait & scan and therapy groups. However, there was some indirect indication of poorer contralateral hearing in all patients with sporadic VS compared to normative values.