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Peer Review

Review of: "Living with a Vestibular Schwannoma: Bridging the Gap Between Treatment and Quality of Life"

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This systematic review of 25 years of QOL outcomes in VS patients is broad in scope and a valuable contribution to both patients and treating teams alike. The point made by the author that standardized QOL measures and validated tools could aid in treatment planning with input from the experience of VS patients is an important and relevant point. The author's interpretation of the collective data is well-reasoned and a good guide when standardized evaluation is yet lacking. The appeal to strengthen relationships between patient advocacy groups, clinicians, and researchers also merits attention, as does strengthening prospective data collection and long-term follow-up, including psychological measures as well as more commonly reported physical measures.

A few recommendations for strengthening the manuscript are as follows.

A major concern of this study is that when studies are included which accrue study subjects from support groups or national readmission data, strong selection bias is evident toward subjects with poorer outcomes. No doubt, support groups offer considerable patient support and expertise, and national databases reporting readmissions are valuable. However, when data drawn from these accrual methods are combined with individual site reports, highly biased data with a large number of study subjects will certainly overrepresent poorer outcomes. (See Ryzenman, 2024, and Schwan et al. 2019). Neither of these studies utilized the validated instruments (PANQOL or SF36) but represented 7,857 of 17,263 (45.5%) subjects in 42 studies selected for inclusion in figure 1 and table 2. Perhaps these two studies could be extracted and compared with the other study cohorts. When PANQOL was used for comparison of ANA and a single-center QOL measure, there were statistically and clinically significant differences in multiple domains. (See Prummer et al. Otol Neurotol 2019).

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A secondary concern is that joining sporadic unilateral VS and *NF2*-related schwannomatosis QOL outcomes introduces error because of the vast difference in the burden of disease (multiple intracranial and spinal cord tumors along with the threat of bilateral deafness) in *NF2*-related schwannomatosis. The Response Evaluation in Neurofibromatosis and Schwannomatosis (REiNS) collaboration has carefully examined patient-reported outcomes tools for use in NF2 to assess QOL (Wolters et al. Neurol 2021).

Minor points for consideration are the following:

As the term “acoustic neuroma” is inaccurate and anachronistic, I would suggest considering “formerly known as” rather than “also known as” in the first line of the introduction. Also, the terminology for NF2 has changed from "neurofibromatosis type 2" to “*NF2*-related schwannomatosis”. (See Plotkin et al. Genetics in Medicine; Sept. 2022 and reference 7 in the manuscript).

I would contend that hearing preservation following stereotactic radiation may give better hearing preservation rates initially, but long-term hearing preservation is not high in several retrospective studies. A broader perspective should be added to that discussion. The excellent tumor control by SRS is not disputed, but the reason for long-term follow-up is most often to watch for eventual escape and tumor growth or malignant change. Cranial neuropathies most often occur in the first year or two of follow-up.

The percentage of tumors that will eventually grow when followed conservatively is given as 30-40%, but retrospective reports range much more widely and are somewhat proportional to the time of follow-up, tumor size, and location. For example, Chirabi et al. reported an 85% growth rate with a mean follow-up of 4 years. (Acta Otolaryngol Suppl. 2000;543:7-10.). Wu et al. reported no growth with small VS in the lateral IAC over a 6-year follow-up. (*Otology & Neurotology, 43* (3), 376-384.)

Was there a difference in tumor size and pre-treatment hearing levels between the various treatment groups? It might be reasonably assumed that most patients undergoing a translabyrinthine tumor resection had either a larger tumor or poor pre-operative hearing. A minor typographical error in the spelling of “translabyrinthine” is seen in Table 1.

It might be nice to add “neurotologist” (not usually hyphenated) to the listed team members who treat patients with vestibular schwannomas in the final acknowledgement, as is done in the body of the text, and add “neurosurgeons” to the body of the text of team members. Both groups are collaboratively involved.

I don’t see mention of the name of the “independent reviewer” acknowledged.

I enjoyed reading this manuscript and appreciate the contribution to the field.

Declarations

Potential competing interests: No potential competing interests to declare.