Editorial

Quality of life in acoustics

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Given the paucity of research on quality of life (QOL) after acoustic neuroma resection, the topic of the article by Betchen and colleagues is potentially very important to the growing specialty of neurosurgical outcomes research. Although this paper reports on a relatively large series of patients with acoustic neuroma who were assessed with a commonly used, reliable, and valid measure of health-related QOL (the SF-36), we believe that by focusing primarily on symptoms rather than global QOL, and failing to use statistical methods such as regression analysis, or an assessment of patients’ depression, these authors do not suggest a clinical practice that would allow us to improve patients’ global QOL, which is the outcome (beyond survival) of utmost importance to the patient.

To develop this argument, we propose that readers first consider the following framework of patient outcomes designated by the World Health Organization: 1) impairment or specific physical symptoms (for example, tinnitus, facial function); 2) disability or how impairments affect activities of daily living (for example, ability to brush one’s teeth, ability to dress oneself); and 3) handicap, how this disability affects overall community participation and “global quality of life,” defined as a subjective sense of well-being of the patient. The distinction among these three levels of outcomes belies the fact that patients can have an impairment or disability that does not necessarily predict handicap with any certainty. To illustrate this point, most clinicians have noted cases in which similar symptoms (for example, facial dysfunction) create a large handicap in one patient (the individual refuses to return to work and reports poor global QOL), whereas the same symptoms do not affect another patient’s global QOL or participation in the community at all. We find that symptoms (impairment) are often referred to in these articles as “QOL” without an attempt to measure global QOL reliably (the SF-36 does not measure this outcome).

The majority of research on QOL and acoustic neuromas has only reported on rates of specific symptoms. The first report of QOL in acoustic neuromas was from Denmark, and it included only rates of common symptoms (hearing loss, tinnitus, dizziness, facial function). Since that time, there have been several other reports of rates of symptoms in patients with acoustic neuroma resection, including some studies in which the SF-36 was also used; the majority of these papers have appeared in the otolaryngology literature, not the neurosurgical literature.

Although symptom rates vary, and authors commonly conclude that symptoms have no real impact on QOL, papers in which global QOL is measured tend to report that surgery negatively impacted global QOL for a majority of patients. For example, by using the Glasgow Benefit Inventory, Nikolopoulos and colleagues found that 53.8% of patients rated their overall QOL as worse at 1 to 3 years postresection, and 28.8% said there was no change. Low correlations between symptom rates and overall QOL give further evidence that symptom reporting is not equivalent to global QOL. For example, Fahy, et al., assessed global QOL by using the Glasgow Benefit Inventory and found that tinnitus was of relatively minor importance to overall QOL. This example also illustrates the importance of using predictive statistical methods (for example, hierarchical regression) to determine predictors of QOL; this quantitative method was lacking in the paper by Betchen and colleagues.

Finally, it is very possible that there is an underlying risk of depression in patients with acoustic neuroma, which has not been formally assessed to date in a large series of patients. Depression may explain some of the discrepancy between symptoms of impairment and handicap, in that depression can make coping with a symptom much more difficult. Support for this idea comes from Cross and colleagues, who measured psychological distress in 74 patients with a history of acoustic neuroma resection and found that the level of distress was not correlated with the clinical grade of facial nerve paralysis (and that patients with low self-esteem, young people, and women suffered from more distress). In another study in which open-ended questions were asked of patients (rather than just about symptoms), 34% of patients reported psychological problems associated with the surgery. The relationship between QOL and depression may seem to be intuitive, because depression has frequently been shown to have a negative
impact on QOL, although they remain separate constructs. Depression is particularly worthy of attention in this population, not only for its negative effect on global QOL, but also for concerns of suicide—many centers, including our own, have noted anecdotal evidence of a higher rate of suicide in these patients than would be expected in the general population.

Therefore, we suggest that the next such study of QOL in acoustic neuroma should include a measure of global QOL, use sophisticated statistical techniques, and include a measure of depression to determine interrelationships and develop strategies for intervention in patients in need.

References

Response: The purpose of our study was to determine whether certain factors, including symptoms resulting from acoustic neuroma surgery performed in a large population by a single surgeon, could account for the previously noted lower QOL in patients with acoustic neuroma when compared with the general population. Because surgery is more successful with modern techniques and experience, focus on the subtleties of function, rather than major disability, is our goal. We believe our paper addresses this issue.

Drs. Farace and Marshall bring up a few interesting points. Although the SF-36, like all questionnaires, is not exhaustive or perfect, it is an excellent tool for monitoring patients with multiple conditions to evaluate their health status and to compare these numbers with a general population. Few other questionnaires have standardized numbers for a general population. Therefore, unless we were to give out the questionnaire preoperatively, there is no scientific way to quantify how people may believe the surgery changed their life retrospectively. Depression is an important aspect of postoperative impact on QOL, and the SF-36 does include several questions on feeling states. These questions include “Have you felt so down in the dumps that nothing could cheer you up? Have you felt downhearted and blue? Did you feel worn out? Have you been a happy person?,” among others. Although it would be ideal to hand out other questionnaires that focus on depression, such as the Beck Depression Index, the additional length of the questionnaire and the time required to fill it out would lower the response rate.

The study by Nikolopoulos and colleagues’ is cited as having demonstrated overall worse QOL. That study has a small group of patients (53); only correlates outcome with tumor size, not postoperative deficits; and preoperative testing was never administered. The authors admit that patients’ recall of their preoperative condition may be inadequate. Without an objective way to compare postoperative with preoperative scores, asking patients retrospectively if their life changed for the worse does not overwhelmingly prove an objective difference. In fact, in our addition-