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Positive Patient Outcomes as a Result of Encouragement and Empowerment: A Capstone Case Series

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For Fulfillment of Doctor of Audiology Degree

Illinois State University, Normal, Illinois

Positive Patient Outcomes as a Result of Encouragement and Empowerment:

A Capstone Case Series

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Introduction: Mild sensorineural hearing loss should command as much attention as more severe levels of hearing loss. When clinicians encounter cases of marginal and mild hearing loss, patient-centered counseling should be employed. Case Presentation: A young adult-aged patient presented with a family history of hearing loss and difficulty hearing binaurally. Discussion: Special care and attention are required to council and provide care for patients with mild hearing loss. The audiogram alone is often incapable of identifying the extent of listening difficulty for persons with mild hearing loss. Conclusion: Amplification and patient counseling can benefit individuals with marginal to mild hearing loss.

Mild Audiometric Hearing Loss and Patient Perception: A Case Report

Introduction

The importance of fitting individuals with a mild hearing loss requires application of patient centered care. This approach incorporates values, priorities, and goals into all patient-professional interactions (Coleman et al., 2018). Patient centered care can be accomplished by partnering with an individual and focusing on what is most important to them (Eberts, 2019). An audiogram with a mild hearing loss does not always provoke action; however, it should, because those with a mild hearing loss can have significant communication problems that require audiologic rehabilitation. Often, individuals with mild hearing loss are told by hearing care professionals to wait for some time before seeking amplification (Johnson et al., 2018). It is essential to look beyond the audiogram to get a more definitive understanding of a patient's condition, and how they perceive their hearing loss. Each patient perceives their hearing loss differently and subsequent complaints may vary widely as well. A study of individuals with mild hearing loss revealed reports of significant improvements in speech understanding and reductions in listening effort when fit with hearing aids (Timmer et al., 2018).

Case Presentation

A young adult woman was seen for a hearing aid selection with a chief complaint of difficulty hearing in both ears. She reported a family history of hearing loss and gradual decline of hearing that existed for several years, including extreme difficulty hearing in large crowds and problems understanding soft speech. She described a bilateral tinnitus that was intermittent yet not bothersome. Her otoscopic examination revealed clear ear canals and intact tympanic membranes, bilaterally. A review of previous pure tone audiometry revealed bilaterally normal to borderline mild sensorineural hearing loss (Figure 1). Uncomfortable loudness levels (UCLs)

were obtained at 110 dBHL for 750 Hz, 1500 Hz, and 3000 Hz in the right ear; and at 105 dBHL 750 Hz and 1500 Hz, and 100 dBHL for 3000 Hz in the left ear. The Quick Speech in Noise test was administered binaurally and revealed a signal-to-noise ratio (SNR) loss of 12.5, which is classified as a moderate SNR loss. She expressed a high degree of interest in amplification and was counseled about goals and expectations regarding hearing aids.

Binaural receiver-in-the-canal (RIC) hearing aids were selected. Real ear measurements were performed on these instruments using speech mapping with NAL-NL2 targets for soft, average, and loud speech inputs from 250 through 8000 Hz. Maximum power output (MPO) was not exceeded and the NAL-NL2 targets were satisfied (Figure 2). The feedback manager was tested, and no significant feedback was observed. After these measures, the patient expressed moderate satisfaction with the hearing-aid fitting and, by her own report, was able to hear noticeably better. Excited, she expressed that she planned to wear her hearing aids all the time. Continued care was provided by the clinic and services were covered by her health insurance plan.

Discussion

Every clinical encounter provides an opportunity to practice patient centered care. A review of the literature indicated that patients with mild hearing loss can benefit from fitting and use of amplification. The literature also revealed that focusing on what is important to the patient is vital to patient-centered care. This patient responded very well to patient-centered counseling. Already interested in amplification, she did not require intensive counseling about the benefits of hearing technology but did require some discussion about her emotional concerns regarding her hearing loss. Untreated sensorineural hearing loss is capable of negatively impacting quality of life and contributing to increased anxiety and depression (Johnson et al., 2018). This assertion

applies to all sensorineural hearing losses, from mild to profound. On average, patients with mild hearing loss have reported between 9 and 16 hours of wear per day and generally experience significant benefit from hearing aid use, whether they are paid for or free of charge (Johnson et al., 2018). Audiologists should measure patient hearing aid outcomes to ensure quality care is provided (Timmer et al., 2018). The use of a real-world approach, as opposed to a standardized self-report survey, is suggested to examine individual patient benefit (Timmer et al., 2018). Such a real-world approach calls for audiologists to administer patient centered care. By partnering with each patient to find out what hearing aid benefits are expected, it then becomes possible to focus on high priority items that can improve hearing-aid satisfaction and patient compliance (Eberts, 2018). It is important to note that attending to individual values and priorities is the essence of patient centered care; thus, it is essential to document and monitor the emotions and concerns of patients who are prescribed amplification (Coleman et al., 2018).

Conclusion

This case demonstrates the importance of treating each patient as a unique case, especially for those who present with a marginal to mild degree of hearing loss. Individuals with these hearing losses may indeed benefit from amplification, which should never be overlooked by audiologists. Clinicians should counsel individuals with a mild hearing loss promptly, presenting them with hearing aid options and reasonable expectations, and doing so with compassionate patient-centered counseling, even when they decide not to pursue amplification.

Tinnitus Concerns and Change of Attitude about Amplification: A Case Study

Abstract

Introduction: Tinnitus is common and can significantly impact quality of life. Patient involvement with the treatment of tinnitus can improve health outcomes. Case Presentation: A middle-aged adult presented to the clinic with unilateral mixed hearing loss and bilateral bothersome tinnitus. Discussion: Although a patient may not always make the best medical decision for themselves initially, involvement in their treatment can improve satisfaction level and compliance with the management plan. Positive outcomes from patient involvement can be achieved by practicing shared decision making. Conclusion: The use of client-centered communication and shared decision making may improve patient satisfaction and improve hearing-instrument outcomes.

Tinnitus Concerns and Change of Attitude about Amplification: A Case Study

Introduction

Tinnitus is generally regarded as the sensation or perception of sound that a person experiences particularly in the absence of external auditory stimuli (Dawood et al., 2019). Individuals experience tinnitus in a variety of ways, and the beliefs and attitudes of patients can play a significant role in the treatment process (Dawood et al., 2019). Because tinnitus impacts patients differently, a patient-centered approach is suggested for optimal patient outcomes. The focus of patient-centered care is shared decision making: the process where clinicians and patients jointly participate in decision making (Lim et al., 2015). This is in stark contrast to traditional decision making wherein practitioners decide what is best for patients (Lim et al., 2015). Patient-centered care requires increased communication with the person receiving services. Patient participation implies inclusion of the patient and family in the planning of medical instruction, and has been associated with improved treatment outcomes (Vahdat et al., 2014).

Case Presentation

A middle-aged woman was seen for a hearing aid selection appointment and her chief complaint was communication difficulty and constant tinnitus. Prior to her appointment, the patient was seen for an audiological evaluation that revealed normal hearing sensitivity with a mild sloping sensorineural hearing loss at 8000 Hz in the right ear, and a moderate mixed hearing loss from 250 Hz through 2000 Hz, with a sloping moderately-severe sensorineural hearing loss from 4000 Hz through 8000 Hz in the left ear (Figure 3). The patient indicated that she had a history of Neurofibromatosis II and underwent Cerebellopontine Angle (CPA) tumor removal eleven years prior to our encounter.

A review of the patient's medical records revealed the discovery of a bilateral vestibular schwannoma that extended into her interior auditory canals, however there was no recommendation for removal. Following surgery for removal of the tumor, the patient described a loss of hearing and balance in her left ear and expressed interest in obtaining left ear amplification only. Her otoscopic examination revealed clear ear canals and normal tympanic membranes, bilaterally. Hearing thresholds for 3000 and 6000 Hz, as well as uncomfortable listening levels (UCLs) were obtained for the left ear. Her UCLs were 95 dBHL at 750 Hz, 85 dBHL at 1500 Hz, and 80 dBHL at 3000 Hz. The Quick Speech in Noise (QuickSIN) test was attempted, but the patient was unable to complete the task. The hearing loss in her left ear was the main priority, followed by her tinnitus complaint.

A monaural receiver-in-the-canal (RIC) hearing aid was prescribed and fitted. Real ear measurements were performed monaurally using speech mapping with NAL-NL2 targets for soft, average, and loud speech inputs being met from 250 Hz through 8000 Hz (Figure 4). We discovered that Maximum Power Output (MPO) was exceeded at some frequencies, but no discomfort was reported by the patient so adjustments to MPO were not administered. The patient reported immediate reduction of her tinnitus perception and satisfaction with the sound quality and comfort of her amplification.

We counseled the patient about the possibility of prescribing amplification for her right ear (binaural fitting). After experiencing a high degree of satisfaction in her left ear, she became motivated about a hearing-aid fitting for her right ear. We then explained that although the hearing loss in her right ear was marginal, she might experience increased relief from her bilateral tinnitus. After this discussion, the patient made the decision to be fitted with a hearing aid in her right ear at a follow-up appointment.

Discussion

The practice of involving patients in their own care and management is imperative. A review of the literature indicated that shared decision making cannot be overlooked when using patient-centered care. The literature revealed that patient participation can result in treatment outcomes being improved. In the case of this patient, her prior understanding of medical care, and experience with loss of balance and hearing after surgical removal of a tumor, provided an important perspective for decision making. Empowering and encouraging her to play a key role in her own treatment plan was critical. When she was presented with the option of amplifying one or both of her ears, she expressed interest in just amplifying her poorer ear. This presented the patient with an opportunity to make a decision about her disposition, which resulted in her developing a sense of control of the plan of treatment. This facilitated a positive patient-professional relationship, which may have motivated her to pursue binaural amplification. This patient's tinnitus perception was initially not a personal priority, but eventually became a significant priority and decisional factor.

Tinnitus is known to be commonly occurring with hearing loss, while presenting a number of adverse health effects (Dawood et al., 2019). Patients require intervention at different degrees, but audiologists should allow their patients to experience tinnitus relief from monaural auditory input first, if preferred by the patient. Although every individual responds differently to auditory stimulation, this patient experienced a significant positive reduction in the perception of her tinnitus. Notably, when a medical professional informs a patient that nothing can be done about their tinnitus, it presents an obstacle when counseling is required (Dawood et al., 2019). Thus, audiologists should be optimistic about tinnitus counseling and should never suggest that

there is no solution available. Moreover, employing a positive approach, and empowering the patient in the treatment process, should lead to improved outcomes.

Health care that encourages patient participation allows for stronger relationships between patients and professionals (Vahdat et al., 2014). These strong relationships foster continued patronage and improved outcomes. Participation allows patients to become equal partners in their care, while motivating them to adhere to the treatment plan. In other words, they become more actively involved and invested in the own care (Vahdat et al., 2014). To achieve this aim of patient participation, sustained quality communication should be emphasized. Without effective communication between patient and practitioner, the delivery of patient-centered care is unachievable (Lim et al., 2015). Audiologists need to remove all power imbalances that exist within their patient relationships in order to actively engage with them in decision making (Lim et al., 2015) because, in reality, the patient is an important element of their treatment outcome, so actively involving them could improve success.

Conclusion

Every patient is an exclusive person with their own values and goals. As such, it is important for audiologists to visualize each patient as a distinctive individual because common complaints, such as tinnitus, will be perceived differently by each patient, and the benefit of not approaching tinnitus and hearing loss the same way for every person is critical. Furthermore, audiologists should practice patient participation to help patients and families make informed decisions. This style of counseling and patient care will require active commitment by audiologists, but the resulting benefits should be outstanding.

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Figures - Case 1

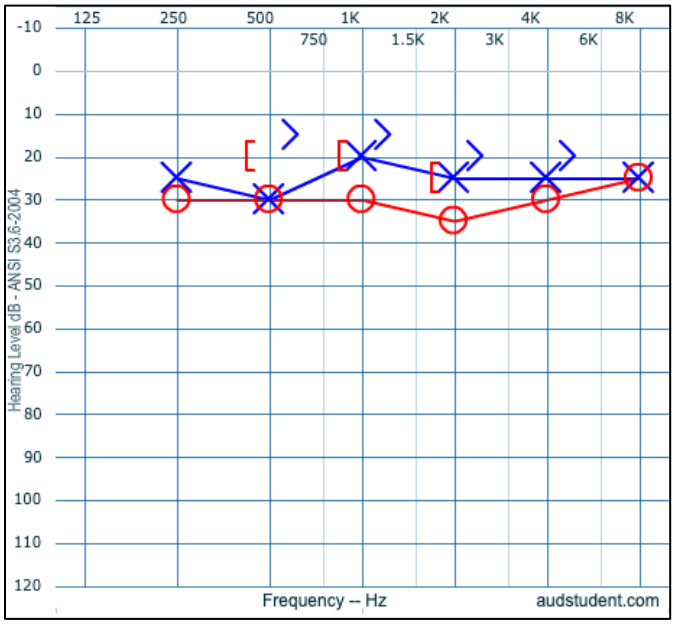

Figure 1. Pure tone audiometry obtained from a prior audiological evaluation that shows normal borderline mild sensorineural hearing loss bilaterally. The symbols connected by solid lines represent the air conduction thresholds.

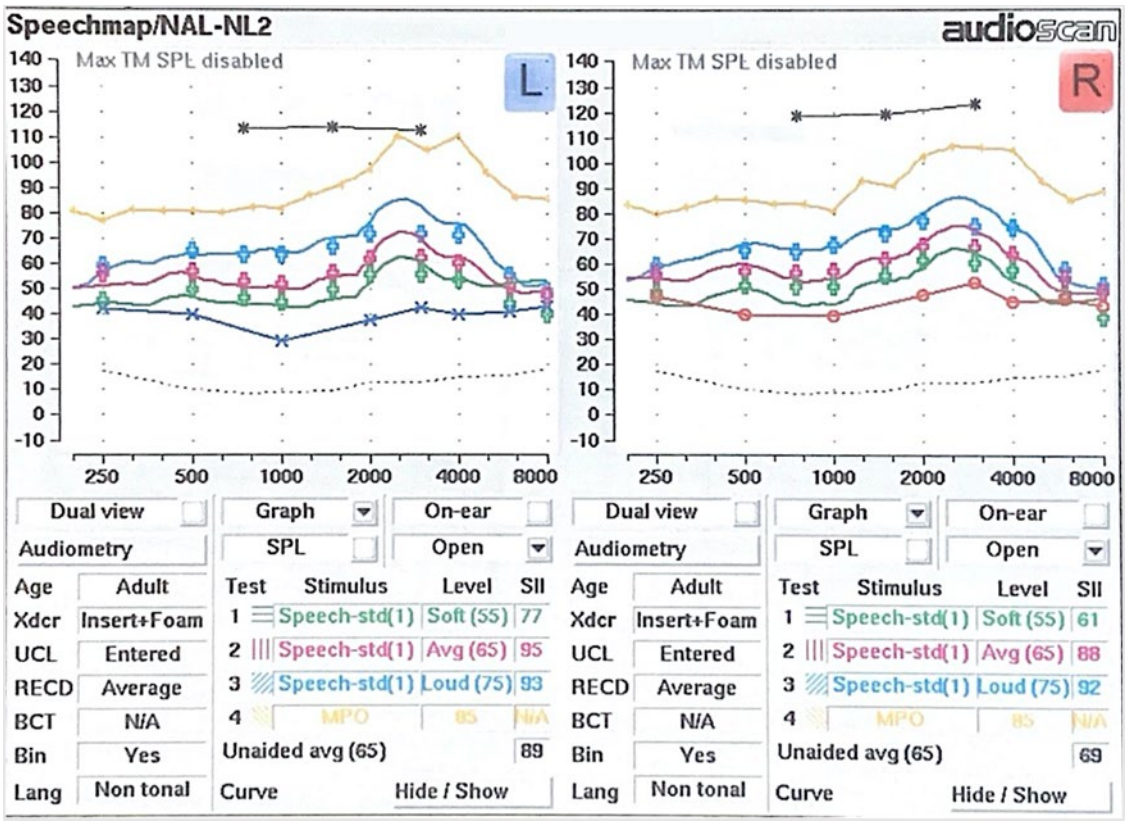

Figure 2. Real ear measurements show NAL-NL2 targets being met for soft, average, and loud speech inputs with MPO levels not being exceeded. The patient expressed comfort and satisfaction when these measures were performed.

Figures - Case 2

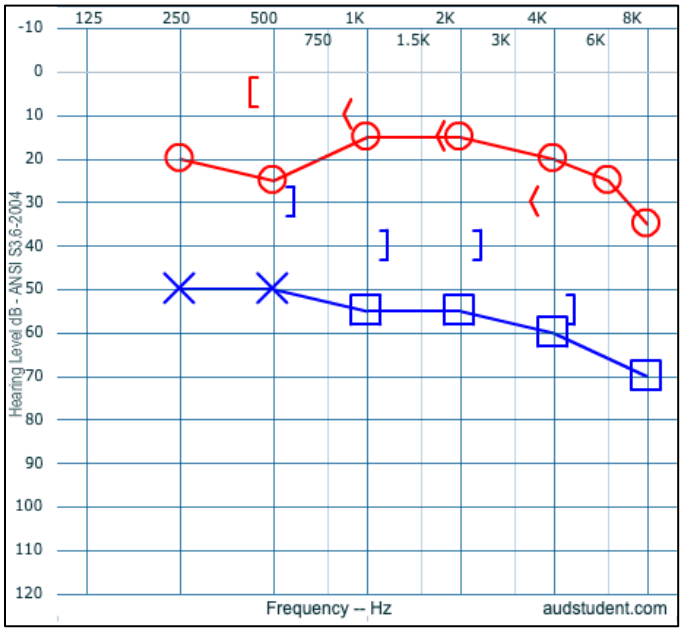

Figure 3. Pure tone audiometry obtained from a previous audiological evaluation that shows normal hearing sensitivity and a sloping mild sensorineural hearing loss at 8000 Hz in the right ear and moderate mixed hearing loss from 250 Hz through 2000 Hz and a sloping moderately-severe sensorineural hearing loss from 4000 Hz through 8000 Hz in the left ear. The symbols connected by solid lines represent the air conduction thresholds.

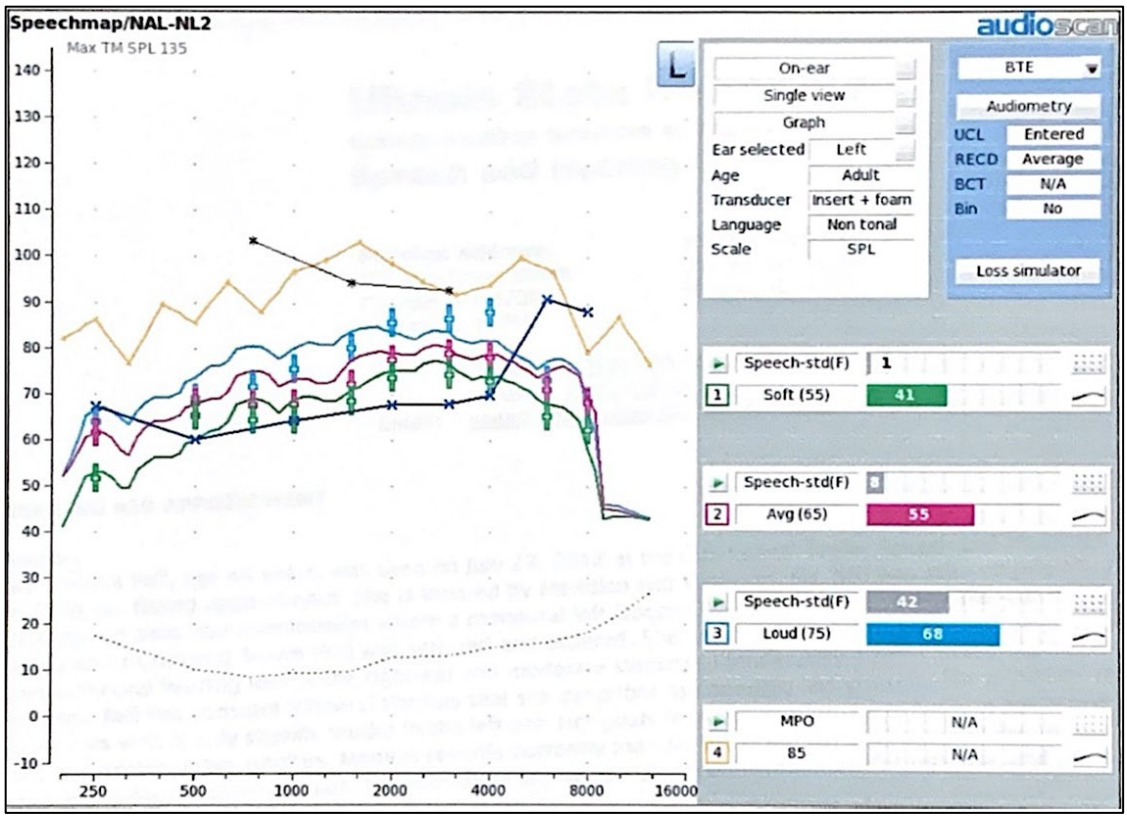

Figure 4. Real ear measurements show NAL-NL2 targets being met for soft, average, and loud speech inputs. MPO is exceeded at some frequencies, but the patient expressed no discomfort, so no changes were made to alter the MPO. The patient expressed comfort and satisfaction when these measures were performed.