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The voice and the larynx in older adults: what's normal, and who decides?

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Voice problems in older adults are common, with estimated prevalences of up to 30% across various samples and query methodologies.¹ Age-related changes of laryngeal anatomy and physiology are thought to lead to both presbylaryngis and dysphonia,² but many with findings of presbylaryngis are asymptomatic, and the incidence of presbylaryngis remains incompletely understood. A challenge in management of voice disorders in older adults is thus what to consider normal versus pathologic, particularly in the context of presbylaryngis.

In the study featured in this commentary, Crawley et al invited all comers over age 74 to their otolaryngology clinics, including patients, spouses, and companions, to participate in a study of voice, health, and quality of life.³ Those who were found to have any other laryngeal history such as structural/ anatomic/ neurologic abnormalities or prior surgery were excluded. A battery of data was collected from each participant, including presence of a voice concern, patient-reported outcome measures (including the voice specific measures VHI-10 and VRQOL, and the SF-36 measure of overall health), sociodemographics, instrumental voice measures, and videostroboscopy. The videostroboscopy exams were rated independently without audio by two laryngologists and one speech pathologist, who were blinded to the presence or absence of voice complaints, for findings suggestive of presbylaryngis. A majority score of at least 2 of 3 was used to categorize ratings.

Those who endorsed a voice concern were considered to be in the pathologic presbyphonia group (31 subjects), and those that did not report a voice concern were considered to be in the healthy control group (26 subjects). Participants were aged 75–101, with a mean age of 81. As might be expected, the pathologic presbyphonia group reported significantly greater voice-related handicap and worse voice-related quality of life than the healthy control group. Overall health scores were comparable. Interestingly, 85% of the healthy control group, which did not report voice concerns, were noted to have findings of presbylaryngis, as compared to 87% of the pathologic presbyphonia group. Similarly, acoustic and aerodynamic findings were comparable between groups, with minor differences in shimmer and jitter, and a possible trend towards an association between lower maximum phonation time and likelihood of voice concerns. As acknowledged by the authors, this study has potential limitations including those related to subject sampling (e.g., selection and response biases, small sample size) and inter- and intra-rater reliability of laryngoscopy ratings.

Future studies could address these issues and could potentially also incorporate additional measures.

Limitations aside, the similarities on stroboscopy and instrumental voice measures across the two groups of subjects raises intriguing considerations. Although the lack of differences in acoustic and aerodynamic parameters could be related to sample size and/or the specific measures used, an alternative and potentially complementary explanation is that other factors may be more important in determining who reports having a voice problem. For example, social context, vocal demand, and communicative participation may play a major role in determining whether a voice change rises to the level of a problem.⁷ In addition, psychological factors such as self-efficacy, resilience, and perceived control might attenuate negative impacts of voice changes, whereas anxiety/depression, somatization or catastrophization might heighten them.^{4–6} Those with adaptive coping skills may be more likely to consider a change in voice quality to be a symptom but not a problem, whereas those with more maladaptive coping skills could see the same change in voice quality as a problem.

This discussion has similarities to those in other topics in otolaryngology. For example, our rhinology colleagues have long been aware of the poor correlation between cross-sectional imaging findings and patient-reported symptom scores in chronic sinusitis patients.⁸ Similar findings in other areas of otolaryngology, and indeed in medicine more broadly, underscore the importance and value of multi-dimensional assessment, including objective measures as well as patient-reported outcome measures that examine both the presenting concern and other potentially relevant associated factors. If a finding is overwhelmingly common in both asymptomatic and symptomatic individuals, how does that influence our understanding of the disorder? Should we be asking more routinely about other factors that may influence how a patient views their disorder as well as, presumably, their treatment outcomes? What measures matter the most? The study by Crawley et al.³ is a valuable addition to the conversation, regarding older adults and with potential extension to other populations, focused on the question of what's normal, and who decides.

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