INTRODUCTION

With Americans living longer than ever before, the proportion of this nation’s elderly suffering from chronic medical conditions continues to rise. Hearing impairment is one such condition and is a recognized public health concern affecting nearly two-thirds of adults over age 70 and more than 80% of those over age 85. Despite this high prevalence, hearing loss is often under-recognized and undertreated by clinicians. Studies have shown that older, hearing-impaired adults are more likely to experience emotional distress, functional decline, depressive symptoms, and social engagement restrictions directly due to their hearing impairment. Complicating matters further is the fact that while over one third of individuals over 65 years of age would benefit from a hearing aid, about 90% do not use one. Understanding the characteristics of the hearing loss is the first step in addressing this population’s needs. Individuals older than 70 years of age have often been studied together in a single category and consequently, there is an absence of age-specific hearing thresholds and their associated disability in this population. Furthermore, the prevalence of asymmetric hearing loss, which may be a harbinger of an acoustic neuraoma, is also unknown in the elderly. By first focusing on the patient population older than 95, one can gain a better understanding of hearing loss in the extremes of age and how it may differ from the rest of the population.

METHODS

All patients over age 95 at the time of their most recent audiological testing at a tertiary medical center from January 1, 2008 to January 31, 2013 were identified. A chart review identified the following characteristics: date and age at most recent audiogram, binaural air conduction thresholds, binaural speech reception thresholds (SRT), and binaural WRS. Also, the presence of retrocochlear pathologies on previous imaging was recorded. For each patient, a low frequency PTA was calculated from 500 Hz, 1000 Hz, and 2000 Hz. A high frequency PTA was calculated from 3000 Hz, 4000 Hz, 6000 Hz, and 8000 Hz. An overall PTA was also calculated. A patient was classified as having asymmetrical hearing on a pure-tone basis if there was a greater than 10 dB difference in thresholds at 2 or more frequencies. A patient was classified as having asymmetrical hearing on a WRS basis if there was a greater than 12% difference in WRS of the two ears. Lastly, data was analyzed for progression in hearing decline on a per annum basis, for those patients with more than 1 audiogram on file. All procedures were approved by the Columbia University Medical Center Institutional Review Board. Statistical analysis was completed using Microsoft Excel. P-values < 0.05 were considered statistically significant.

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REFERENCES