Current dysphonia trends in patients over the age of 65; Is vocal atrophy becoming more prevalent?

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ABSTRACT

According to the department of Health and Human Services, persons over the age of 65 currently represent 12.9% of the American population. This age group is the fastest growing segment of the population and is expected to expand to 30% by 2050. This increase will affect the volume of elderly patients seen in medical institutions for vocal complaints.

The incidence of voice disorders in the aging population is estimated to be 12 - 35%1,2,3. This incidence is difficult to establish due to a lack of an accepted definition of normal features of the aging voice versus disorders associated with aging.4,5. Identified causes of geriatric voice dysfunction include anatomic changes in the larynx and resultant vocal fold atrophy, central neurologic conditions, impaired physiologic condition, and pathologic lesions such as laryngeal carcinoma, vocal polyps, vocal fold paralysis, and reflex laryngitis.

We examine all patients over the age of 65, referred to the Emory Voice Center over a six year time span, and assess the current diagnostic trends of dysphonia.

METHODS AND MATERIALS

Following approval by the Emory University institutional review board, a retrospective review was performed for all new patients over the age of 65 referred to the Emory Voice Center for voice complaints from January 2004 to December 2009.

Age and diagnosis at assessment was recorded. Diagnoses were divided into 8 categories based on features present at clinical assessment and stroboscopic evaluation, these included: vocal atrophy, benign vocal fold lesions (vocal nodules, cysts, polyps, scar, dysplasia, papilloma), chronic laryngitis (reflux laryngitis, radiation fibrosis, autoimmune/rheumatologic conditions), infectious laryngitis (fungal laryngitis, acute viral laryngitis), malignant vocal fold lesions, functional/muscle tension dysphonia, central neurologic vocal dysfunction (tremor, spasmodic dysphonia), and vocal fold immobility (unilateral, bilateral, and post-intubation pharyngeal insufficiency).

Of those patients identified with signs of vocal atrophy, further chart review was performed to determine treatment modalities offered and pursued, and voice related quality of life (VRQOL) scores pre-and post-treatment.

Data was codified and SPSS statistical software was used to calculate descriptive statistics and paired t-test was performed to compare voice outcomes pre- and post-treatment.

RESULTS

A total of 190 patients over the age of 65 were diagnosed with vocal atrophy from 2004 – 2009, mean age was 74.7 years. Therapy options offered and pursued are as displayed in table 2.

Table 1. Patient referral patterns

<table>
<thead>
<tr>
<th>Total new referrals</th>
<th>New patients &gt; 65</th>
<th>New voice patients &gt; 65</th>
<th>Mean Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6360</td>
<td>1342</td>
<td>775</td>
<td>73.5</td>
</tr>
</tbody>
</table>

Table 2. Therapy options offered and accepted by patients >65 years with vocal atrophy

<table>
<thead>
<tr>
<th>Treatment offered</th>
<th>Treatment Accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reassurance</td>
<td>Voice Therapy</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>71</td>
<td>108</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Of those patients undergoing intervention for vocal atrophy 118 patients had available VRQOL raw data. Mean pre-treatment VRQOL raw was 24.1. Of those with available VRQOL raw data post treatment (32) the mean post-treatment VRQOL raw was 18.9. Twenty-six patients had pre and post-treatment VRQOL data as illustrated in figure 2. There was a statistically significant (p<0.0001) difference between pre- and post-treatment values with the paired sample t-test.

Discussion

We examine all patients over the age of 65, referred to the Emory Voice Center over a six year time span, and assess the current diagnostic trends of dysphonia.

The prevalence of patients over the age of 65 presenting with vocal complaints in this study was 21.1%. This is consistent with a study assessing the prevalence of perceived dysphonia in a geriatric independent living facility in 2006 6. This is an increase from the most commonly cited 12% incidence of vocal complaints in an elderly population in 1986 4.

While the most common diagnoses are similar to those observed in the literature 1,7 we found an increase in the number of patients presenting with vocal atrophy (25%) 7. This is supported by a recent study 8 of which 33% of patients were still in the workforce, suggesting a greater proportion of elderly patients relying on their voices for work.

The current management options for vocal atrophy include reassurance, voice therapy, injection laryngoplasty, and thyroplasty. In our study, the majority of patients (56.8 %) opted to pursue voice therapy as their primary intervention, while 38.9% were satisfied with reassurance alone. Of those patients undergoing intervention for vocal atrophy, there was a statistically significant improvement in VRQOL raw scores. The greater proportion of patients seeking intervention suggests a greater need for health resources in the future.

CONCLUSIONS

We conclude that as the number of people in the over 65-year age bracket increases, so does the number of geriatric referrals. While diagnostic trends remain constant in this patient population we do observe an increase in the number of patients presenting with vocal atrophy. Given the large proportion of patients seeking intervention for vocal atrophy, the increase in patients presenting with vocal complaints will likely translate into a greater demand for health resources in this patient population in the future.

REFERENCES