The purpose of this study was to compare the frequency of phonetic distortions and phonemic errors in speech samples collected from 26 people, 16 of whom were left hemisphere stroke survivors and 10 of whom did not have brain injury. This study also aimed to find the correlation between phonetic and phonemic errors among the speakers who had suffered a stroke.

Left hemisphere stroke often results in aphasia, which can co-occur with both apraxia of speech (AOS) and phonemic paraphasia (APP). AOS and APP have similar presentations, so it is important to increase understanding of the clinical differentiation between the disorders. AOS is a motor speech disorder characterized by a slow speaking rate and the presence of distortions and distorted substitutions, while APP is characterized by phonemic errors such as the deletion, addition, and/or substitution of phonemes. Thus, phonetic distortions are linked theoretically only to AOS and one of two primary criteria for differential diagnosis between AOS and APP when studying speech (Haley et al., 2012).

Stroke group:
- 6 females, 10 males
- mean age: 58 years
- 6 with borderline fluent aphasia, 4 with conduction aphasia, 4 with Broca’s aphasia, 2 with anomic aphasia

Control group:
- 8 females, 2 males
- mean age: 63 years

Disclosures: The authors have neither financial nor intellectual conflicts of interest.

RESULTS

<table>
<thead>
<tr>
<th>Coder 1</th>
<th>Stroke Group Averages</th>
<th>Control Group Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of segments with phonetic distortions</td>
<td>4% (range: 1% - 9%)</td>
<td>1% (range: 0% - 5%)</td>
</tr>
<tr>
<td>% of segments with phonemic errors</td>
<td>14% (range: 3% - 43%)</td>
<td>1% (range: 0% - 2%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coder 2</th>
<th>Stroke Group Average</th>
<th>Control Group Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of segments with phonetic distortions</td>
<td>10% (range: 3% - 17%)</td>
<td>3% (range: 0% - 9%)</td>
</tr>
<tr>
<td>% of segments with phonemic errors</td>
<td>15% (range: 2% - 43%)</td>
<td>2% (range: 0% - 5%)</td>
</tr>
</tbody>
</table>

For the stroke group, there was a positive, moderately strong correlation between transcribers for the frequency of phonetic distortion errors and phonemic errors.

**CONCLUSIONS**

- For the stroke group, there was a positive, moderately strong correlation between transcribers for the frequency of phonetic distortion errors and phonemic errors.
- Distortion frequency was significantly higher for the stroke group than the control group.
- Coder 2 coded more distortions than Coder 1. One reason may be a lack of clear criteria for how to code dialectical differences in vowels.

REFERENCES
