Introduction

Phonological paraphasias have been well described in persons with stroke-induced aphasia. However, diagnosis of PPA variants is partially based on the presence and frequency of paraphasias. 

Discourse Production

Methods

Participants

• Transcripts from 21 individuals with PPA were used in this study (see Table 1 for demographic information of the 13/21 participants who produced paraphasias).

• Discourse samples were transcribed using CHAT format with paraphasia coding.

Phonological Paraphasia Coding

• The rules for the Philadelphia Naming Test were used to identify phonological paraphasias.

• Phonological Paraphasia Coding

1. Word position of error
2. Type of segment in error
3. Word frequency
4. Degree of change (for consonants only)
5. Type of error (addition, substitution, deletion, syllable deletion, syllable insertion, syllable addition, sequencing)
6. Part of speech of target word
7. Paraphasia type (mixed, formal, non-word)
9. Self-correction (target word form).
10. Preserved word form.

Discourse Production

• Participants were asked to retell the Cinderella story and were allowed to look at a picture book as they spoke.

• Discourse samples were transcribed using CHAT format with paraphasia coding.

Phonological Paraphasia Coding

• The rules for the Philadelphia Naming Test were used to identify phonological paraphasias.

• Mixed errors: phonologically and semantically related word (e.g., car -> coach)

• Formal errors: semantically unrelated real word (e.g., cleave -> clean)

• Non-word errors: phonologically related non-word (e.g., Silerenda -> Cinderella)

• Only errors for which a target word was clearly identified were included

• Context, self-correction, preserved word form.

• For each paraphasia, the following information was coded:

  1. Paraphasia type (mixed, formal, non-word)
  2. Part of speech of target word
  3. Type of error (addition, deletion, substitution, sequencing)
  4. Word position of error
  5. Type of segment in error (vowel, consonant singleton, consonant cluster)
  6. Degree of change (for consonants only)
  7. Target word frequency

Results

Table 1. Demographic information for participants who produced paraphasias.

<table>
<thead>
<tr>
<th>All (N = 13)</th>
<th>Logopenic (N = 5)</th>
<th>Nonfluent (N = 3)</th>
<th>Semantic (N=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TPO (months)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussion

• Individuals with SvPPA produced more phonological paraphasias than would be expected from the literature.

• They produced more mixed paraphasias than the other subtypes, but produced more formal and non-word paraphasias than mixed.

• Individuals with LvPPA produced more mixed paraphasias than the other subtypes, but produced more formal and non-word paraphasias than mixed.

• Individuals with NVvPPA produced more mixed paraphasias than the other subtypes, but produced more formal and non-word paraphasias than mixed.

• A better understanding of phonological paraphasias may aid in more accurate diagnosis of PPA subtypes and could also lead to improved patient education regarding the difficulties and errors to be expected as the disease progresses.

• Next steps should investigate paraphasias in a larger sample, controlling for time post onset.