METHODS

Any person with a definite diagnosis of PD, aP or ALS identified through Parkinson’s disease or ALS centers. Our objective is to determine whether cognitive and psychiatric co-morbidities correlate with PBA in patients with PD, atypical parkinsonism (aP) and ALS.

OBJECTIVE

Our objective is to determine whether cognitive and psychiatric co-morbidities correlate with PBA in patients with PD, atypical parkinsonism (aP) and ALS.

RESULTS (continued…)

Table 1: Patient Demographics

<table>
<thead>
<tr>
<th></th>
<th>PD</th>
<th>ALS</th>
<th>aP</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>63.4 ± 10.5</td>
<td>61.6 ± 8.7</td>
<td>68.8 ± 7.9</td>
<td>0.36</td>
</tr>
<tr>
<td>Duration of Illness</td>
<td>5.0±4.8</td>
<td>2.4±1.6</td>
<td>3.9±2.3</td>
<td>0.54</td>
</tr>
<tr>
<td>Male</td>
<td>30</td>
<td>13</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>13</td>
<td>12</td>
<td>0.795</td>
</tr>
<tr>
<td>&lt;12 years</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>10</td>
<td>6</td>
<td>4</td>
<td>0.675</td>
</tr>
<tr>
<td>Some college</td>
<td>23</td>
<td>9</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>&gt;16 years</td>
<td>13</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>48</td>
<td>21</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0.694</td>
</tr>
<tr>
<td>African American</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

There are no statistically significant differences in demographics between the aP subgroups measured through Chi-square, t-tests and ANOVA.

RESULTS

Figure 1: Distribution of Diagnoses in the Recruited Cohorts

There are no intragroup differences among the 3 subgroups recruited on demographic and individual questionnaires.

DISCUSSION

This study demonstrates that, despite its definition, PBA correlates with affective disturbance in PD and aP patients but not in ALS patients.

The results suggest that individuals with parkinsonian disorders and PBA symptoms should be evaluated and/or treated for co-morbid mood problems.

Previous studies have reported increased burden of illness associated with PBA and an association between depression and PBA in a movement disorders population. In addition to these observations our study also demonstrates an association between PBA and anxiety in parkinsonian patients.

Limitations of this study include:

- Small sample size
- Exclusion of patients with advanced disease due to impaired language and communication in all groups
- MoCA scores may be artificially reduced to disease specific symptoms affecting writing

CONCLUSION

The proposed mechanism of PBA is disruption of inhibitory signals descending from the cerebral cortex to motor regions of the brainstem implicated in the regulation of emotional output.

Our findings suggest that an alternate pathophysiological mechanism for PBA may be present in ALS compared to parkinsonian patients.

Future studies should be directed toward evaluation of the pathophysiologic mechanism of PBA in each neurological conditions.

Additional testing of mood effects of dextromethorphan-quinidine (an FDA-approved treatment for PBA), or effect of antidepressants on PBA should be considered in patients with parkinsonian conditions.

REFERENCES