Speech-Language Pathology Case Study: Evaluation & Treatment of Adult Female with Bell’s Palsy

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What is Bell’s Palsy?

- Bell’s palsy is a type of facial paralysis, which typically unilaterally affects the facial nerve due to unknown causes.
- It weakens connections between the brain and the facial nerve.
- Results in drooling, facial weakness, dryness of mouth and eye, changes in taste, and more.
- Synkinesis is an involuntary movement that occurs along with a voluntary movement and can be a possible sequela of Bell’s palsy.
- Approximately 71% of patients fully recover, 13% have insignificant sequelae, and 16% have permanent diminished function. About 85% of patients recover in first 3 weeks.¹
- Pharmaceutical and rehabilitative treatments, including facial exercises, massage, biofeedback, electrostimulation, and if necessary speech therapy².
- Sparse evidence about the methods and effects of speech therapy for Bell’s palsy patients exists necessitating this case study report.

The Patient

- The patient is a 67-year-old female speech-language pathologist diagnosed with Bell’s palsy, resulting in severe facial asymmetry and right-sided weakness.
- Pharmaceutical treatment was administered.
- Physical therapy began 3 weeks post-onset. No pharmaceutical treatment was administered.
- No spontaneous recovery was noted 4 months post-onset.
- There was time for discharge due to possible synkinesis symptoms in left side.

Evaluation Methods

- Evaluation Methods include:
  1. **SUNNYBROOK FDI-PHYSICAL**
  2. **FDI-SOCIAL**
  3. **HOUSE-BRACKMANN IOPI-RIGHT**
  4. **IOPI-LEFT**
  5. **SAQ**
  6. **EAT-10**
- Results were mostly desirable,
- More effort required
- New goals: rotary chew & full labial closure

Evaluation Findings

<table>
<thead>
<tr>
<th>Evaluation Method</th>
<th>Initial Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synkinesis Assessment Questionnaire (SAQ)</td>
<td>9/45</td>
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<tr>
<td>Lower score preferred (lowest=9)</td>
<td>no synkinesis symptoms</td>
</tr>
<tr>
<td>Sunnybrook Facial Grading Scale</td>
<td>4/100</td>
</tr>
<tr>
<td>Higher score preferred</td>
<td>slight movement on right side</td>
</tr>
<tr>
<td>Facial Disability Index (FDI)</td>
<td>Physical: 11/25</td>
</tr>
<tr>
<td>Higher scores preferred</td>
<td>Social: 24/30</td>
</tr>
<tr>
<td>House-Brackmann Facial Nerve Grading System</td>
<td>Grade V</td>
</tr>
<tr>
<td>Grade I = typical symmetry</td>
<td>barely perceptible motion, incomplete eye closure</td>
</tr>
<tr>
<td>Grade II = paralytic</td>
<td></td>
</tr>
<tr>
<td>Iowa Oral Performance Instrument (IOPi)</td>
<td>Right side: 7kPa</td>
</tr>
<tr>
<td>female mean = 26kPa³</td>
<td>Left side: 20kPa</td>
</tr>
<tr>
<td>Eating Assessment Tool (EAT-10)</td>
<td>10/40</td>
</tr>
<tr>
<td>score &gt; 3 suggests dysphagia</td>
<td>concerns of weight loss</td>
</tr>
<tr>
<td>Lowscore preferred</td>
<td></td>
</tr>
<tr>
<td>Conversation Sample</td>
<td>100% intelligible</td>
</tr>
<tr>
<td>More effort required /s, z, 0, p, b/</td>
<td></td>
</tr>
<tr>
<td>Trials of Solids &amp; Liquids</td>
<td>100% intelligible</td>
</tr>
</tbody>
</table>

Discussion

- Clinicians utilized evidence-based practice.
- Results were mostly desirable with exception of synkinesis symptoms and slight eating/drinking discomfort.
- Patient gained notable facial movement and was able to make facial expressions, which was one of her goals.
- There is a possibility of performing electrode stimulation to involuntary facial hyperactivity resulting in synkinesis.

Limitations

- One-subject case study not generalizable
- An individualized protocol was utilized since no widely accepted treatment protocol exists.
- There is a chance that improvement was spontaneous, however clinicians believe it is not since 85% of patients recover within 3 weeks, and this patient did not show any spontaneous recovery for the first 4 months.

Next Steps

- Clinicians and patient decided it was time for discharge due to maximal improvement attained.
- Patient has since been attending physical therapy for dry needling. She is motivated to reduce residual Bell’s palsy damage.
- More research needs to be conducted with larger sample sizes, control and treatment groups, and more focus on possible synkinesis symptoms in order to create a widely accepted treatment protocol.

References