**Goal Selection Using the Goal Attainment Scale in Ambulatory Patients with Cerebral Palsy According to GMFCS Levels in a Randomized, Double-Blind, Placebo-Controlled Study of AbobotulinumA (Dysport©)**


Space, Inc., France; **Takeda Pharmaceutiscals USA, Inc., Charlotte, North Carolina, USA; Grifols, Granada, Spain;**

**INTRODUCTION**

The Goal Attainment Scale (GAS) is a functional scale used to measure progress towards individual therapy goals. The GAS is a functional scale used to measure progress towards individual therapy goals.

**EFFICACY MEASURES**

The efficacy assessments were NARS, TARS, Observation Gait Scale, Fear Pain Scale, Quality of Life Inventory; including Constant Pain Residue, and Pain Self-Assessment.

**Goal Attainment Scale**

The GAS is a functional scale used to measure progress towards individual therapy goals.

**BASELINE DATA**

Patient demographics and baseline characteristics are shown in Figure 1.

**STUDY DESIGN**

A total of 241 patients were randomly allocated to one of these treatment strategies, Dysport® 10 / 25 / 50 / 75 IU or placebo, expectorated into the gastrocnemius-soleus muscle complex of each affected lower limb.

**Eligibility**

Ambulatory patients (GMFCS Levels I–III), with spastic equinus gait due to CP.

The GAS is a functional scale used to measure progress towards individual therapy goals:

- Selected goals were ranked according to:
  - Individual goals were selected by parent/caregiver from a pre-selected goal list and
  - A pre-selected list contains goals for active or passive function and pain. Goal scaling
  - their importance (very, moderately, a little, not at all) to the parent(s)/child
  - the difficulty in achieving each chosen goal (very, moderately, a little, not at all) by

**BASELINE DATA**

Patient demographics and baseline characteristics are shown in Figure 1.

- There was no difference in baseline GAS by GMFCS levels (median score was 2 across all GMFCS levels, p = 0.3).

**Figure 1.** Patient demographics and baseline characteristics.

**Frequencies of all identified goals are in Table 1.**

- The Tardieu grade

**Table 1.** GAS goal combination (% of patients in each category)

<table>
<thead>
<tr>
<th>GAS goal combination</th>
<th>% of patients (n=241)</th>
<th>Level I (n=133)</th>
<th>Level II (n=82)</th>
<th>Level III (n=26)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved walking pattern only</td>
<td>30/10/5/4</td>
<td>12.8/14.4/16.2/13.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved balance only</td>
<td>30/10/5/4</td>
<td>12.8/14.4/16.2/13.8</td>
<td></td>
<td></td>
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<td>12.8/14.4/16.2/13.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Figure 2.** The most common GAS treatment goals, ranked ‘very important’ by parent(s)/caregiver(s) for each GMFCS level.

**DISCUSSION**

- Over the three GMFCS levels, the most frequently selected GAS goal was ‘Improved walking pattern’ (47%), followed by ‘Improved balance’ (35%) and ‘Decreased frequency of tripping’ (15%).

- While the first two goals were of similar frequency at all levels, the third goal (‘Increased frequency of falling’) was less important in the parent (caregiver) at the GMFCS level in patients. This is possibly because the gas-attenuated devices used by these patients improved their stability when walking.

- The goal ‘Decreased frequency of tripping’ featured prominently in GMFCS level I and II groups, but hardly at all in the level III group. This could mean an increase in awareness affecting these patients.

- The goal ‘Very important’ by the parent(s)/caregiver(s) completely correlated with these frequencies in the respective ‘Increased walking speed’, chosen as a goal by 18% patients, was never selected as ‘very important’.

**CONCLUSIONS**

- An improved walking pattern remains by far the most desirable objective of treatment in ambulatory patients with CP across GMFCS levels I–III in the study population. This will almost certainly be the main objective for ambulatory subjects with CP and dynamic equinus deformity in the wider population.

- The degree of difficulty in achieving goals generally increases with increasing disability, as measured by GMFCS levels. Despite the large degree of spasticity as measured by the TARS.

- It is notable that a wide range of goals is selected by individual patients from the list of options in this study. In general, the GMFCS level influences the goals selected by patients and their families. This underscores the importance of the treating physician to tailor therapy according the needs and desires of the patient.

**Analysis of Treatment Goals**

- The 241 patients set a total of 249 goals at baseline, an average of 2.2 goals per patient.

- Among all the possible combinations of 1–3 goals out of 15 (458 ‘mother’/two-goal’ lists), only 77 distinct combinations were found in the randomized sample (18%). The use of very frequently observed combinations of goals was embodied by our 45% of all randomized patients (Table 2).

- Unexpectedly, none of the six most frequent combinations included ‘improved walking pattern’ as a goal. This was identified as the only treatment goal by 12% of the patients.

- ‘Improved balance’ was present in three of the six most frequent combinations. This goal was identified as the only treatment goal by 7% of the patients.

**REFERENCES**