Disease and Treatment Burden in Children and Adolescents with Growth Hormone Deficiency (GHD)

This research was supported by Novo Nordisk A/S. Presented at the 45th Annual Meeting of the European Society for Paediatric Endocrinology (ESPE), 1-5 October 2015, Barcelona, Spain. For additional information, please contact Meryl Brod at mbrod@thebrodgroup.net.

Background

- GH is the major factor that controls growth, but its effects are only evident during puberty.
- GH deficiency can be congenital or acquired in childhood, and is associated with impaired linear growth.
- GH deficiency can be caused by a variety of factors, including genetic, environmental, and medical conditions.
- GH deficiency can lead to a range of physical and cognitive impairments, including poor growth, poor learning, and reduced bone density.

Results

- A total of 180 patients were included in the study.
- The majority of patients were male (55.6%) and were between the ages of 6 and 12 years old.
- The most common cause of GH deficiency was idiopathic (44.4%).
- GH therapy was shown to be effective in improving linear growth and reducing the risk of developing co-morbidities.

Conclusions

- The overall burden of GH deficiency in children and adolescents is considerable and associated with short stature.
- GH deficiency can lead to a range of physical and cognitive impairments, including poor growth, poor learning, and reduced bone density.
- GH therapy is effective in improving linear growth and reducing the risk of developing co-morbidities.

References


Figure 1: Prevalent Disease Burden of GHD Theoretical Model

- GH deficiency is associated with impaired linear growth and reduced bone density.
- GH therapy is effective in improving linear growth and reducing the risk of developing co-morbidities.

Table 1: Disease Burden in GHD Theoretical Model

<table>
<thead>
<tr>
<th>Disease Burden</th>
<th>Total (n=180)</th>
<th>GH Deficient (n=70)</th>
<th>GH Deficient After GH Therapy (n=110)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor growth</td>
<td>53 (29.5%)</td>
<td>37 (52.9%)</td>
<td>16 (14.5%)</td>
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<tr>
<td>Poor learning</td>
<td>64 (35.6%)</td>
<td>47 (67.1%)</td>
<td>17 (15.5%)</td>
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<tr>
<td>Poor bone density</td>
<td>50 (27.8%)</td>
<td>33 (47.1%)</td>
<td>17 (15.5%)</td>
</tr>
<tr>
<td>Poor mental development</td>
<td>42 (23.3%)</td>
<td>28 (40.0%)</td>
<td>14 (12.7%)</td>
</tr>
</tbody>
</table>

Table 2: Disease Burden and Subdomains

- Poor growth: Height, weight, and bone density
- Poor learning: Cognitive and academic performance
- Poor bone density: Bone mineral density and fracture risk
- Poor mental development: Intelligence and social skills

Figure 2: Prevalent Disease Burden of GHD Theoretical Model

- GH deficiency is associated with impaired linear growth and reduced bone density.
- GH therapy is effective in improving linear growth and reducing the risk of developing co-morbidities.

Table 3: Treatment Burden - Children and Parents

<table>
<thead>
<tr>
<th>Treatment Burden</th>
<th>Total (n=180)</th>
<th>GH Deficient (n=70)</th>
<th>GH Deficient After GH Therapy (n=110)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GH therapy</td>
<td>62 (34.4%)</td>
<td>34 (48.5%)</td>
<td>28 (25.5%)</td>
</tr>
<tr>
<td>Social Support</td>
<td>51 (28.3%)</td>
<td>35 (50.0%)</td>
<td>16 (14.5%)</td>
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<tr>
<td>Emotional Support</td>
<td>45 (25.0%)</td>
<td>28 (40.0%)</td>
<td>17 (15.5%)</td>
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<tr>
<td>Educational Support</td>
<td>38 (21.1%)</td>
<td>24 (34.3%)</td>
<td>14 (12.7%)</td>
</tr>
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<td>Physical Activity</td>
<td>36 (20.0%)</td>
<td>20 (28.6%)</td>
<td>16 (14.5%)</td>
</tr>
</tbody>
</table>

Table 4: Treatment Burden - Children and Parents

- GH therapy is associated with improved physical and emotional well-being.
- Social support and emotional support are important in improving the quality of life of children and adolescents with GH deficiency.

Figure 3: Conceptual Model of the TRM-GHD

- GH deficiency is associated with impaired linear growth and reduced bone density.
- GH therapy is effective in improving linear growth and reducing the risk of developing co-morbidities.

Figure 4: Conceptual Model of the TRM-GHD

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