LIRAGLUTIDE FOR THE MANAGEMENT OF CHILDHOOD OBESITY

Presented at: Alder Hey Children’s NHS Foundation Trust

INTRODUCTION

- Prevalence of childhood obesity is continuing to increase worldwide
- Number of serious complications with significant long-term health implications if not managed in timely manner
- Lifestyle intervention is the recommended treatment option for childhood obesity
- Glucagon-like peptide 1 therapy has shown promising results in adults, but data remains limited in paediatric population

AIM

- To investigate the effect that liraglutide and an intense lifestyle programme has on adolescents with obesity

METHOD

- Adolescents with significant complications secondary to obesity attended a multidisciplinary team (MDT) weight management clinic
- Complications include type 2 diabetes mellitus, dyslipidaemia, idiopathic intracranial hypertension, hepatic fibrosis, depression and obstructive sleep apnoea
- Individuals started on once-daily subcutaneous liraglutide injections
- Reviewed every two weeks
- Liraglutide was started at 0.6mg daily and titrated up to 3mg (if needed)

RESULTS

- 7 patients completed a 3-month treatment course and 3 of these patients completed 6 months in total
- All participants were female
- Mean age was 14.9 years (range: 13-16 years)
- Average weight prior to intervention was 140.6kg (SD 20.8; range 110.5-168.4), BMI was 50.2kg/m² (SD 8.2; range 36.1-57.9) and BMI SDS was +4.1 (range +3.2 - +4.48)
- Mean percentage weight loss was 4.2% (1.2-9.7%) and 5.8% (4-8.2%) at 3 and 6 months, respectively
- Significant weight loss (5.3kg, 95%CI 1.93-8.78, p=0.009) and significant reduction in BMI (2.09kg/m², 95% CI 0.97-3.20, p=0.004) was noted at 3 months of treatment
- This further continued with weight loss (6.9kg, 95% CI 1.33-12.53, p=0.033) and BMI reduction (2kg/m², 95% CI 0.08-3.94, p=0.047) being significant at 6 months of treatment
- One patient was able to discontinue acetazolamide for idiopathic intracranial hypertension and another patient showed resolution of steatohepatitis during treatment course
- No side effects were reported due to liraglutide

CONCLUSIONS

- Significant weight loss and BMI reduction in a cohort of adolescents following liraglutide treatment over a 3 and 6-month period, along with an intense lifestyle programme supported by a dedicated MDT
- These results show that the use of liraglutide within an MDT setting could be a potential treatment option for children and young people with significant complications secondary to obesity

ACKNOWLEDGEMENTS

LOOP @ Alder Hey

CONTACT INFORMATION

Dr Louise Apperley
l.apperley@nhs.net

Table 2: Shows the weight and BMI of each patient at baseline and at three-months

<table>
<thead>
<tr>
<th>Patient</th>
<th>Weight kg (SDS)</th>
<th>BMI kg/m² (SDS)</th>
<th>% weight loss</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-treatment</td>
<td>3 months post-</td>
<td>Pre-treatment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>treatment</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>115.2 (+6.07)</td>
<td>107.9 (+5.30)</td>
<td>57.9 (+4.48)</td>
</tr>
<tr>
<td>2</td>
<td>153.2 (+10.48)</td>
<td>150.8 (+10.09)</td>
<td>56.4 (+4.32)</td>
</tr>
<tr>
<td>3</td>
<td>140.2 (+8.58)</td>
<td>130.9 (+7.62)</td>
<td>42.9 (+3.64)</td>
</tr>
<tr>
<td>4</td>
<td>110.5 (+6.05)</td>
<td>99.8 (+4.83)</td>
<td>36.1 (+3.18)</td>
</tr>
<tr>
<td>5</td>
<td>149.3 (+9.51)</td>
<td>147.5 (+9.31)</td>
<td>49.6 (+4.11)</td>
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<tr>
<td>6</td>
<td>147.2 (+9.32)</td>
<td>145.2 (+9.12)</td>
<td>57.1 (+4.44)</td>
</tr>
<tr>
<td>7</td>
<td>168.4 (+11.48)</td>
<td>164.4 (+11.06)</td>
<td>51.7 (+4.21)</td>
</tr>
</tbody>
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