



LIRAGLUTIDE FOR THE MANAGEMENT OF CHILDHOOD OBESITY

L Apperley¹ K Erlandson-Parry² L Gait³ P Laing¹ S Senniappan¹

¹ Department of Paediatric Endocrinology, Alder Hey Children's Hospital, UK

² Department of Paediatric Dietetics, Alder Hey Children's Hospital, UK

³ Department of Paediatric Clinical Psychology, Alder Hey Children's Hospital, UK



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 0.06-3.94, 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

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

Patient	Weight kg (SDS)		BMI kg/m ² (SDS)		% weight loss
	Pre-treatment	3 months post-treatment	Pre-treatment	3 months post-treatment	
1	115.2 (+6.07)	107.9 (+5.30)	57.9 (+4.48)	54.3 (+4.33)	6.3
2	153.2 (+10.48)	150.8 (+10.09)	56.4 (+4.32)	55.4 (+4.29)	1.6
3	140.2 (+8.58)	130.9 (+7.62)	42.9 (+3.64)	40.0 (+3.39)	6.6
4	110.5 (+6.05)	99.8 (+4.83)	36.1 (+3.18)	32.9 (+2.81)	9.7
5	149.3 (+9.51)	147.5 (+9.31)	49.6 (+4.11)	48.2 (+4.04)	1.2
6	147.2 (+9.32)	145.2 (+9.12)	57.1 (+4.44)	56.7 (+4.44)	1.4
7	168.4 (+11.48)	164.4 (+11.06)	51.7 (+4.21)	49.6 (+4.1)	2.4

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