Paediatric morbid obesity (BMI >99.6th centile for age) causes severe obstructive sleep apnoea (OSA) requiring respiratory support.

• Prognosis is poor and requires urgent intervention.

AIM

• Assess outcome in 4 patients with morbid obesity and severe OSA admitted for multidisciplinary team (MDT) intensive weight management and continuous positive airway pressure (CPAP) initiation.

METHOD

• The patients (3 male, 1 female; ages 9-16 years) had BMIs >99.6th centile (>3 SDS). Two had developmental delay.

• 1 patient was taking metformin prior to admission, another taking orlistat was also commenced on liraglutide.

• Inpatient admission (10-33 days), all families received specialist input from obesity and respiratory MDTs including clinical nurse specialists, dietetics, and a psychologist.

• All patients had overnight sleep studies performed due to clinical concerns of OSA.

• All patients had overnight CPAP demonstrated obstructive sleep apnoea.

RESULTS

• All had severe obstructive sleep apnoea (e.g. figure 1) (median oxygen desaturation index (ODI): 36.5 events/hour; range: 34-98) and low minimum oxygen saturations (median: 73.5%; range 39-80%).

• All patients successfully lost weight during the admission, and continued the trajectory at 3-, 6- and 12-months following discharge with marked reduction in BMI SDS (table 1 and figure 2).

• All successfully initiated on overnight CPAP in hospital and have continued.

• Sleep parameters rapidly improved in all following CPAP initiation; including a reduction in ODI (median ODI: 13.9 events/hour; range: 9.7-14.3) and reduction in median minimum oxygen saturations (median: 80.5%; range: 77-85%).

CONCLUSIONS

• The mechanisms for weight loss may be due to a range of factors, including a lifestyle shift following an intensive MDT intervention, improved sleep quality through CPAP enhancing weight loss and medication for weight reduction.

• This approach may benefit a range of patients with morbid obesity and severe OSA.

REFERENCES


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