

Multidisciplinary Approach to The Super Obese Patient Presenting with Respiratory Distress: A Case of Losing 100 Kilos in a Year

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ABSTRACT

In this article, a super morbid obese case with severe comorbidity is presented to lose 100 kg without surgery with a multidisciplinary approach. It has been observed that losing weight in obese patients also corrects many dysfunctions. It has been discussed that preoperative counseling, frequent follow-up and a multidisciplinary approach can be effective in weight loss.

Keywords: morbid obesity, hypoventilation, treatment

Introduction

Obesity is rapidly becoming the number one health problem in the world and its prevalence is increasing (1). According to the data of the World Health Organization, the prevalence of obesity has tripled in the last 40 years. Although obesity causes many diseases, it also significantly increases the health costs of countries (2). Among the potential diseases that obesity can cause cardiovascular diseases that affect the whole body systemically, diabetes, and cerebrovascular diseases that are life-threatening and tend to become chronic (3,4).

Obesity Hypoventilation Syndrome (OHS) is a condition characterized by excessive daytime sleepiness and sleep-disordered breathing in which obesity is accompanied by hypoventilation leading to

hypercapnia without any other neurological, muscular, mechanical, or metabolic cause. Its incidence is increasing in parallel with the increasing obesity epidemic in the world. It is an important cause of morbidity and mortality with the increased risk of pulmonary hypertension caused by OHS and especially low quality of life (5). Weight loss is of great importance in the treatment of these patients. It has been shown in studies that the PaO₂ and PaCO₂ values of patients who lost a sufficient amount of weight returned to normal. In addition, Obstructive Sleep Apnea Syndrome (OSAS), which may accompany weight loss, may improve, pulmonary artery pressure decreases, and cardiac functions improve. Respiratory functions also improve with weight loss (6). However, it is very difficult for super

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morbidly obese patients with a body mass index (BMI) of 50 and above to lose significant weight except for bariatric surgery. There is no case in the literature that lost 100 kg in a year without surgery.

In this article, it was aimed to present a super obese patient who developed respiratory distress and lost 100 kg in a year with a multidisciplinary approach.

Case Presentation

It was learned that a 45-year-old female patient, who applied with complaints of obesity and shortness of breath, had increased her weight regularly over the years, therefore she could not be mobilized and had respiratory distress. He had a history of hypertension and obesity-related hypoventilation syndrome. It was learned that her weight gain increased regularly since adolescence, that she was heavier than her peers, and that she gained weight rapidly, especially after pregnancy. In the physical examination of the patient; her weight was 180 kg, her height was 153 cm, and her BMI was 76.9 kg/m², TA: 130/90 mmHg, the thyroid gland was non-palpable, buffalo hump was present, rhonchus in the expirium, abdominal comfortable obesity could not be evaluated because of non-purple color on the abdominal skin striae were present. Pretibial +2 edema was detected in both lower extremities of the patient. The patient, who was followed up by the pulmonologists with the diagnosis of OHS, was receiving bilevel positive airway pressure (BPAP) treatment and trandolapril/verapamil 180/2 mg/day antihypertensive treatment at home. First of all, a weight loss program was applied to the patient with a multidisciplinary approach. She was given psychosocial support, behavior change and dietitian support during his regular polyclinic control. In this way, it was ensured that the patient was fed with low-carbohydrate calorie restriction, and his physical activity was gradually increased. In addition, the patient was consulted to internal medicine, and obesity-related endocrinopathies such as Cushing's and hypothyroidism were excluded, and liraglutide, a GLP-1 analogue, was started with a dose of 0.6 mg/day and increased to 2.4 mg/day. It was observed that the patient, who did not interrupt her follow-ups in the

obesity outpatient clinic and lost weight consistently each time, dropped from 180 kilos to 80 kilos after one year. Surgical operations for sagging in different parts of the body due to excessive weight loss were planned by plastic surgery. In the follow-up, it was observed that OHS improved and respiratory functions returned to normal. It was seen that the patient did not need BPAP, and the liraglutide drug was discontinued after 3 months of treatment when the patient continued to lose weight without medication. It was observed that the mobilization of the patient increased with the decrease in weight. It was observed that all other functions returned to normal.

Discussion

Here, a case of a super morbid obese, immobile patient diagnosed with OHS lost weight with a multidisciplinary approach is presented.

Despite the rapid increase in the prevalence of obesity in the world, obesity cannot be adequately treated. To address the underlying cause of many chronic diseases, it is vital to provide overweight or obese patients with guidance and multidisciplinary assistance for dietitian assistance and, if necessary, medical treatment.

Numerous studies have shown that obese people experience significant impairments in their quality of life as a result of their obesity and greater impairments associated with higher degrees of obesity. It has been emphasized that weight loss improves the quality of life in obese people receiving various treatments (7-9). In this case, we saw that excess weight impairs the quality of life by affecting many functions, especially inactivity, sleep and respiratory problems. We saw that our patient was mobilized with weight loss and was able to do independent physical activity afterward.

In the literature, it has been shown that the severity of OHS decreases with well-programmed dietary management. Subjective sleep parameters as well as nocturnal oxygenation were also improved when a diet was started in addition to BPAP use (10,11). In our patient, with regular dietitian follow-up, the need for BPAP decreased with weight loss, and then there was a complete recovery in terms of OHS.

In addition, respiratory parameters also improved completely.

Although bariatric surgery has proven to be a viable treatment option for the morbidly obese, it is clear that less invasive alternatives are needed. Studies report that long-acting analogues of the gut hormone, glucagon-like peptide 1 (GLP-1), can be used as an antiobesity therapy. The GLP-1 receptor agonist, liraglutide, is effective in reducing and maintaining body weight loss as an obesity treatment option (12-14). In our case, liraglutide was started and the weight-loss phase was accelerated. It was decided to

discontinue the drug after the patient lost weight at the desired level after a certain period of use.

Conclusion

With this case report, we have shown that the combination of a multidisciplinary approach and medical therapy can increase success in weight loss to treat patients with OHS who need BPAP. However, additional studies are needed to address the overall effects and safety of GLP-1 analogs in the treatment of obesity-related immobility and OHS.

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