

# HYPOGONADOTROPIC HYPOGONADISM AND OBESITY, WHAT CAME FIRST? – CASE REPORT

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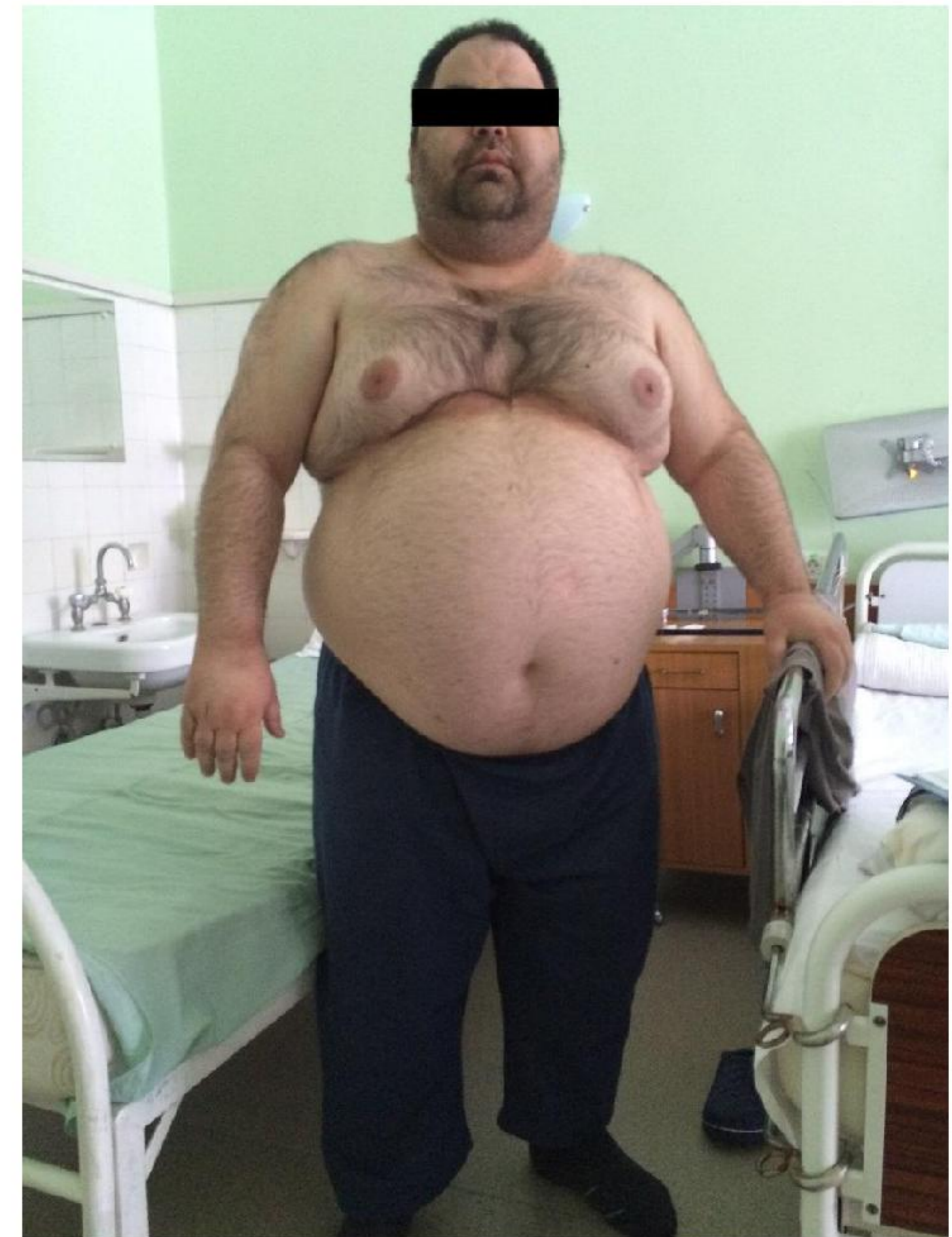
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**Introduction:** Morbidly obese patients raise many problems in therapeutic attitude, sometimes associating a cluster of obesity-related abnormalities: hypogonadotropic hypogonadism, metabolic syndrome, respiratory insufficiency, and high risk for cardiovascular disease. These afflictions can be reversed through weight loss, especially in young patients.

**Case report:** We present the case of a 41 year old male patient, smoker, with morbid obesity (BMI = 63 kg/m<sup>2</sup>), who came to our clinic for investigations regarding 90 kg weight gain in the past 5 years, daytime sleepiness and sleep apnea observed by the family. Clinical evaluation revealed mild hypertension, tachycardia, skin hyperpigmentation, bilateral gynecomastia, and ochre dermatitis.



**Fig. 1 Obesity related venous insufficiency**



**Fig. 2 Visceral obesity and gynecomastia**

Paraclinical tests showed isolated hypogonadotropic hypogonadism with a testosterone level less than a quarter of the normal plasma value, testosterone = 53.3 ng/dl (N: 330-805ng/dl), FSH = 1,11 mIU/mL (0.1-12.4 mIU/mL), LH = 3.69 mIU/mL (N: 0.1-8.6 mIU/mL), inflammatory syndrome, hypercholesterolemia, type 2 diabetes, normal renal and liver function. The patient had no prior investigation of the pituitary-gonadal axis. Pulmonary function tests showed moderate restrictive ventilatory dysfunction, and after performing polysomnogram evaluation, he was diagnosed with severe sleep apnea syndrome and obesity-hypoventilation syndrome. CPAP therapy was started, improving the symptoms and diminishing daytime sleepiness. Pituitary imaging to further evaluate the etiology of hypogonadism is required.



**Fig. 3 Visceral obesity and gynecomastia**

**Conclusions:** Hypogonadotropic hypogonadism in male obese patients can be caused by visceral obesity, or can be a cause for obesity. Patients associating respiratory distress limit the therapeutical options. Testosterone substitution therapy can decrease oxygen saturation and worsen sleep apnea syndrome, leading to sleep cardiac arrhythmia, but more studies are required in this field. The only viable option is rapid weight loss, which can be achieved through bariatric surgery.