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Our patient lost weight but also her heart beat

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Introduction: Symptomatic bradycardia has been reported in morbidly obese individuals and is often attributed to untreated obstructive sleep apnea. Development of this complication de novo in patients after successful gastric bypass surgery and weight loss is rare.

Case description: We present the unique case of a 46 year old lady with past history of HTN, osteoarthritis and morbid obesity. She complained of intermittent episodes of lightheadedness and syncope which started 5 months after a successful Roux-en-Y Gastric bypass surgery. She denied any history of hypothyroidism and was not on any medication which would precipitate bradycardia. Symptoms would appear at any time during the day without any triggers. In the post surgery period, she lost > 50 Kg of weight and her BMI improved from 49.9 to 28.1. She felt very active otherwise and had no complaints of day time sleepiness, snoring or apneic episodes during sleep. Physical exam during the episode revealed heart rate of 32- 36/ min, blood pressure of 100/70. There was no icterus, thyromegaly, pedal edema, heart murmurs or hyporeflexia. EKG showed sinus bradycardia with intermittent pauses. Echocardiogram showed normal ejection fraction and surprisingly revealed normalization left ventricular hypertrophy which was reported in a previous study done 6 months prior to surgery. Metabolic profile, thyroid function and cortisol levels were with in normal limits. Patient was evaluated by cardiology and it was concluded that her symptoms were due to an increased resting vagal tone and decreased resting oxygen uptake after surgery. This condition is considered to be benign and does not require pacemaker. She was started on scopolamine patch with complete resolution of bradycardia and her symptoms.

Discussion: Pathophysiology of bradycardia developing after successful weight loss involves decreased cardiac output and resting oxygen uptake by tissues. Bariatric surgery leads to increased Glucagon-like peptide-1 and Ghrelin levels stimulating the enterocardiac hormonal axis. This axis modulates decrease in sympathetic outflow and strengthening of resting vagal tone resulting in bradycardia. The favorable change in hormonal milieu and decreased cardiac output leads to regression of ventricular hypertrophy as observed in our patient. Clinicians should be aware of this relatively rare but benign condition in this era of increasing use of Bariatric surgery for weight loss.

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