Weight Gain with CPAP: A Complication of Treatment?

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LETTER TO THE EDITOR

The article by Quan et al. reported a small, significant weight gain in patients adherent to continuous positive airway pressure (CPAP) treatment for obstructive sleep apnea (OSA).¹ However, they failed to address a key aspect—was the weight gain due to adipose tissue or lean body mass (LBM)? While the mechanism of the weight gain is speculative to a degree, there is a study which clearly demonstrated a gain in LBM in patients adherent to CPAP.² Thus, the question becomes, is the weight gain associated with CPAP adherence a complication or an appropriate response to treatment?

Munzer et al. reported on 113 patients with similar weight gain in patient's adherent to CPAP.² They provided detailed anthropometric measures on BMI, waist circumference, total fat, visceral fat, and LBM. In both males and females there was a significant increase in LBM, with the greatest gain in females of 2.2 kg. As opposed to weight gain from fat, increases in LBM are associated with improved overall health and exercise capacity. An increase in LBM is further supported by improved VO₂ max in patients adherent to CPAP.³

Both Quan and Phillips focused on leptin, inflammatory cytokines, and decreased energy expenditure as mechanisms for weight gain.^{1,4} They did not account for the growth hormone (GH) axis, whereby previous studies reported decreased GH and insulin-like growth factor-1 (IGF-1) in patients with untreated OSA.^{2,5} Notably, IGF-1 stimulates protein synthesis and maintains muscle mass. Our study and others have reported significant increases in IGF-1 in patients adherent to CPAP.^{6,7} Thus, the restoration of the GH axis and increase in IGF-1 in CPAP adherent patients likely contributed to weight gain and potential increase in LBM.

Treating OSA with CPAP improves sleepiness, decreases cardiovascular complications, and restores the function of the GH axis. It is more than likely that weight gain associated with CPAP adherence is a

positive therapeutic outcome; yet, further studies are required to better answer this question.

CITATION

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DISCLOSURE STATEMENT

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