Original Article

Impact of bariatric surgery on obstructive sleep apnoea–hypopnea syndrome in morbidly obese patients

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Abstract

Background: Obstructive sleep apnea (OSA) is commonly associated with morbid obesity. Weight loss following bariatric surgery results in resolution or improvement of OSA. However, few studies have done objective assessment of the impact of bariatric surgery on OSA.

Objective: The aim of this study was to assess the outcome of bariatric surgery on OSA.

Setting: The study was conducted in the teaching institution of a tertiary care centre.

Methods: Twenty-seven morbidly obese patients seeking bariatric surgery were administered Epworth Sleepiness Scale (ESS) health questionnaire and subjected to overnight polysomnography. Repeat assessment using ESS and polysomnography was done at 3–6 months after surgery.

Results: Mean age was 42.4 ± 10.5 years, and majority (77.8%) were female. The mean pre-operative weight and body mass index (BMI) were 126.4 ± 24.9 kg and 48.4 ± 8.2 kg/m^2, respectively. Nearly 29.6% patients had symptoms of excessive daytime somnolence based on ESS score and overnight polysomnography detected the presence of OSA in 96.3% patients, of which 51.9% had severe OSA. At mean follow-up of 5.2 ± 2.5 months after surgery, mean weight and BMI decreased to 107.4 ± 24.5 kg and 41.2 ± 8.2 kg/m^2, respectively. Mean ESS score and mean apnoea–hypopnea index declined from 8.9 ± 3.2 to 4.03 ± 2.15 ($P < 0.001$) and from 31.8 ± 20.4 to 20.2 ± 23.1 ($P = 0.007$), respectively. Number of patients requiring continuous positive airway pressure (CPAP) therapy declined from 15 to 3 and average CPAP requirement came down from 11.3 cm of H_2O to 6 cm of H_2O.

Conclusion: OSA was present in a significant proportion of patients undergoing bariatric surgery. Bariatric surgery resulted in significant improvement in both subjective and objective parameters of OSA.

Keywords: Bariatric surgery, Epworth Sleepiness Scale, obstructive sleep apnoea–hypopnea syndrome, polysomnography

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INTRODUCTION

obstructive sleep apnea (OSA) is characterised by successive episodes of cessation or decrease in respiratory airflow. OSA is closely associated with obesity, its incidence is known to increase with increase in body mass index (BMI). OSA induces alveolar hypoventilation and respiratory

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