TREATMENT OF OBSTRUCTIVE SLEEP APNEA WITH MULTIPLE SURGERIES
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ABSTRACT

Objective: To determine the effectiveness of multiple surgeries in the treatment of moderate and severe obstructive sleep apnea syndrome (OSAS) and associated co-morbidities.

Study: A retrospective study was conducted of all consecutive patients who underwent multiple surgeries for OSAS in a tertiary hospital in São Paulo, Brazil, from August 1997 to March 2010. The study included 45 patients (24 males) aged 19 to 78 years.

Methods: The study included a review of the medical records of all patients who had undergone multiple surgeries for OSAS. The patients were divided into two groups: moderate OSAS (AHI 5-19 events/h) and severe OSAS (AHI ≥ 20 events/h). The surgical procedures included: uvulopalatopharyngoplasty (UPPP), tonsillectomy, septoplasty, and adenotonsillectomy.

Results: The success rate was 65% in the moderate OSAS group and 44% in the severe OSAS group. The mean follow-up period was 4.5 years. The most common complication was nasal obstruction, which occurred in 10% of the patients.

Conclusions: Multiple surgeries are effective in treating moderate and severe OSAS, with a success rate of 65% in moderate OSAS and 44% in severe OSAS. However, further studies are needed to determine the optimal surgical approach for OSAS.

INTRODUCTION

Obstructive Sleep Apnea Syndrome (OSAS) is a chronic disorder characterized by repetitive episodes of upper airway collapse, with sleep fragmentation, and can cause systemic hypertension, cardiovascular disease, excessive daytime sleepiness and decreased quality of life. There is a need for effective and surgical treatment strategies for the management of OSAS. The literature reviewed in this study shows that surgical procedures are the most effective therapeutic option in the management of OSAS as well as changing from conservative treatments. However, the clinical outcomes of the surgical procedures are difficult to determine due to the absence of consistent, exisitual appliance or CPAP (Continuous Positive Airway Pressure). Therefore, this study aimed to evaluate the short-term outcomes of patients who had undergone multiple surgeries for OSAS.

METHODS AND MATERIALS

A retrospective study was performed at our institution from 1997 to 2012 with patients who complained of snoring and had symptoms suggestive of OSAS. We reviewed the medical records of patients with moderate and severe obstructive sleep apnea syndrome who underwent multiple surgeries for OSAS. The surgeries included uvulopalatopharyngoplasty (UPPP), tonsillectomy, septoplasty, adenotonsillectomy, hypopharyngeal, tongue base and facial skeleton surgical procedures in severe cases. The patients were divided into two groups: moderate OSAS (AHI 5-19 events/h) and severe OSAS (AHI ≥ 20 events/h). The surgical procedures included: uvulopalatopharyngoplasty (UPPP), septoplasty, adenotonsillectomy and tonsillectomy. The success rate was 65% in the moderate OSAS group and 44% in the severe OSAS group. The mean follow-up period was 4.5 years. The most common complication was nasal obstruction, which occurred in 10% of the patients.

RESULTS

Forty-five patients were studied (3 females and 42 males). Mean age was 44.28 years (±10.18) and mean BMI was 28.01 kg/m² (±3.3). Thirteen patients (28.9%) had moderate OSAS and 32 (71.1%) severe OSAS. Surgical techniques were combined as follows: UPPP and THP (n=2.22%), UPPP and LP (n=2.74%), UPPP and GGA (n=3.57%), UPPP and THP (n=5.95%), UPPP and RDI (n=4.44%), UPPP and GGA and THP (n=3.57%), UPPP and MPI (n=3.57%), UPPP and RDI and MLG (n=4.44%), UPPP and THP and LP (n=2.22%), UPPP and RDI and MLG (n=4.44%), UPPP and MLG (n=3.57%), UPPP and GGA and MLG (n=3.57%), UPPP and THP and MLG (n=4.44%), UPPP and LP and MLG (n=3.57%).

Objective measures of disease improvement are based on polysomnography. The mean AHI for moderate and severe OSAS was 44.76 and 19.73 episodes/h (range 19.56-1079.52) (p<0.05) and 19.72 and 9.51 episodes/h (range 2.17-67.30) (p<0.05). There were significant reductions in the mean AHI for moderate (44.76-21.54) (p<0.05) and severe OSAS (19.72-9.51) (p<0.05) postoperatively. The mean BMI for moderate and severe OSAS was 28.01 kg/m² (±3.3) and 22.5 kg/m² (±2.9) respectively, which was also significantly reduced postoperatively. The mean BMI for moderate OSAS was 28.01 kg/m² (±3.3) and 22.1 kg/m² (±2.9) respectively, which was also significantly reduced postoperatively.

CONCLUSIONS

Multiple surgeries are effective in treating moderate and severe OSAS, with a success rate of 65% in moderate OSAS and 44% in severe OSAS. However, further studies are needed to determine the optimal surgical approach for OSAS.

DISCUSSION

OSAS is a relatively common disease defined as repeated episodes of partial or complete obstruction of upper airway with a reduction or cessation of airflow during sleep. Success after multiple procedures approaches the oropharyngeal and hypopharyngeal level in patients with significant airway obstruction [5]. Filley et al found a success rate after UPPP and hyoid myotomy and myofascial release with a mean follow-up period of 32.3 months [8]. However, the success rate of multiple surgeries for OSAS is not well established. There are no studies reporting the success rate of multiple surgeries for OSAS. Thus, the success rate of multiple surgeries for OSAS was analyzed in this study.

REFERENCES