

INTRODUCTION

- Obstructive Sleep Apnea (OSA) has been managed for decades with limited collaboration of the main disciplines involved in its diagnosis, treatment and follow-up.
- There has been a growing recognition of the need for increased collaboration amongst healthcare professionals in the provision of OSA management.
- In 2009, the Ottawa Hospital established a Multidisciplinary OSA Surgical Clinic consisting of Otolaryngology-Head and Neck Surgery and Oral & Maxillofacial Surgery.

PURPOSE

- To determine the effect of a Multidisciplinary OSA Surgical Clinic on patient treatment decisions and outcomes.

METHODS

- A retrospective cohort study was conducted of patients diagnosed and managed for OSA at the Ottawa Hospital, a tertiary academic center, from January 2009 to April 2014.
- Following referral from a sleep medicine physician, all patients were examined at the Multidisciplinary OSA Surgical Clinic by a team consisting of Otolaryngology-Head and Neck Surgery (LM) and Oral & Maxillofacial Surgery (KB).
- All patients underwent a comprehensive assessment and treatment planning including nasopharyngoscopy, standardized preoperative overnight polysomnogram and, in certain cases, preoperative radiographic examination.
- Following surgical treatment, patients were asked to complete standardized postoperative overnight polysomnogram.

METHODS (CONT'D)

- Two reviewers (CH, KB) independently extracted data from the Hospital OACIS database using a pre-defined extraction form on the following: patient initials, sex, date of birth, medical history, clinical assessment results, treatment decisions, operative reports, and pre- and postoperative sleep study results.
- Descriptive statistics were reported as N (%) for count variables and mean (standard deviation) for continuous variables.
- Changes in pre- and postoperative means were compared with those reported in the literature to determine whether the multidisciplinary approach is clinically effective.

RESULTS

Table 1: Data Extraction Elements

General Patient Information

- Patient initials
- Sex
- Date of birth
- Age
- BMI
- Pulse
- BP (systolic/diastolic)
- Friedman tongue position (Mallampati)
- Tonsil size
- Uvula bulk
- Skeletal occlusion
- Friedman staging
- Anterior rhinoscopy findings
- Diameter & distance
- Wall collapse

Patient Treatment Information

- Surgery recommended?
- Surgery done?
- Expected treatment/ provided treatment
- Post-operative sleep study done?
- Pre-operative AHI
- Post-operative AHI

RESULTS (CONT'D)

- A total of 101 patients (74 males and 27 females) with an average age of 47.1 and average BMI of 30.3 were assessed at the Multidisciplinary OSA Surgical Clinic.
- All referred patients had sleep study-confirmed OSA with a mean preoperative AHI of 32.2.
- Surgery involving either single- or multiple-modalities was recommended in 70 (69%) patients, among who 35 patients accepted and completed surgery. Surgery was not recommended in the remaining 31 (31%) patients (**Table 2**).

Table 2: Comparison of Surgery vs. No Surgery Patients

	% Surgery Recommended	% Surgery Accepted & Completed	% Surgery Denied	% No Surgery Recommended
N (%)	70/101 (69%)	35/69 (51%)	34/69 (49%)	31/101 (31%)
Age	45.7			51.1
BMI	29.9			30.8
Pre-Op AHI Mean	34.4	36.1	32.3	26.7
Post-Op AHI Mean		8.1		

- Bimaxillary advancements were recommended in 36 patients and accepted in 18 patients while uvulopalatopharyngoplasties (UPPPs) were recommended in 36 patients accepted in 24 patients (**Table 3**).
- 3 out of 3 patients accepted tonsillectomy while 1 out of 4 patients accepted genioglossus surgery.

RESULTS (CONT'D)

Table 3: Bimaxillary Advancements vs. UPPPs

	N (%)	Pre-Op AHI Mean	Post-Op AHI Mean	% Improvement in AHI	% Success	% Cure
Bimax Accepted by Patients	18/36 (50%)	82.1	7	66.1	72	55.6
UPPP Accepted by Patients	24/36 (67%)	38	11.6*	76.7	75	62.5

*only 6/24 UPPP patients had post-op PSG

- Patients who underwent OSA surgery at the Multidisciplinary OSA Surgical Clinic had a mean overall reduction in AHI of 28 (77.6%).

CONCLUSIONS

- The success rate reported in our study was comparable to that in the literature for bimaxillary advancement treatment, while it was higher for UPPP (but only 6/24 patients completed post-op polysomnogram).
- The cure rate was comparable to that reported in the literature for both bimaxillary advancement and UPPP treatments.
- Our study was limited by a large number of missing post-operative polysomnogram results and the true benefit of a multidisciplinary team approach in the management of OSA may be far greater than what is reported in our study.
- Prospective or randomized controlled trials may be useful to delineate the true effect of a multidisciplinary OSA Surgical Clinic on patient outcomes in the future.

ACKNOWLEDGEMENTS

Disclosure: The authors have no financial nor proprietary interest in any materials discussed in this article.

Funding Source: U of O – Undergraduate Research Opportunity Program