

TRANSORAL ENDOSCOPIC COBLATION TONGUE BASE SURGERY IN OBSTRUCTIVE SLEEP APNEA; RESECTION VERSUS ABLATION

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INTRODUCTION

Obstructive sleep apnea (OSA) is a common serious social health problem that affects 2% to 4% of the adult population. The gold standard for diagnosis is polysomnography (PSG). Continuous positive airway pressure (CPAP) remains the mainstay treatment despite low patient compliance. Surgical treatment is an important alternative option. Sleep endoscopy reveals that enlarged tongue base is an obstructive condition in many OSA cases. Multiple surgical measures aimed at reduction of tongue base hypertrophy. Recently, coblation is a relatively available and affordable technology for handling this disease category. In this study, the coblation technology was used at the level of tongue base, and resection was compared versus ablation.

AIM OF THE WORK

The aim of the current study was to assess efficacy of transoral endoscopic coblation tongue base surgery in OSA patients and to compare resection versus ablation of tongue base hypertrophy.

PATIENTS

The study included fifty patients with moderate to severe OSA, presented to the outpatient clinic at Otorhinolaryngology Department, Alexandria Main University Hospital, Alexandria, Egypt.

Patients were randomly divided into two groups:

Group (A): Twenty-five patients treated with tongue base ablation (CELL group).

Group (B): Twenty-five patients treated with the newly proposed technique of tongue base resection (Robo-Cob group).

Unfit patients for GA, patients with severe cardiorespiratory co-morbidities, morbidly obese patients, limited mouth opening < 2.5 cm, patients with no significant tongue base hypertrophy, patients with previous tongue base surgery or significant craniofacial anomalies were excluded.

METHODS

A two-year prospective randomized comparative study.

All patients were subjected to the following **preoperative protocol**:

- Detailed history taking.
- Complete H&N examination.
- Polysomnography as a gold standard investigation (obtaining the preoperative AHI).
- Drug-induced sedation endoscopy (DISE).

Operative Technique : under GA through a nasotracheal intubation, all patients underwent transoral endoscopic tongue base reduction surgery using Evac 70 coblator wand for ablation in **group (A) patients**, and for resection in **group (B) patints**. Actual operative time at the level of the tongue base was registered in minutes.

- **Outcome measures:** different parameters were measured after surgery in both groups; the most important of which was the postoperative AHI.

RESULTS

Table: Comparison between the two groups according to surgical tongue base time

| Surgical tongue base time | Group A (n=25) | Group B (n=25) | U | p |
|---------------------------|-------------------|-------------------|--------|---------|
| Min. – Max. | 39.0 –61.0 | 20.0 –58.0 | | |
| Mean ± SD. | 48.76 ±5.99 | 37.0 ±10.09 | 5.011* | <0.001* |
| Median (IQR) | 48.0 (44.0 –53.0) | 37.0 (29.0 –43.0) | | |

- IQR:** Inter quartile range
- U:** Mann Whitney test
- p:** p value for comparing between the two studied groups
- *: Statistically significant at $p \leq 0.05$
- Group A:** Ablation
- Group B:** Resection

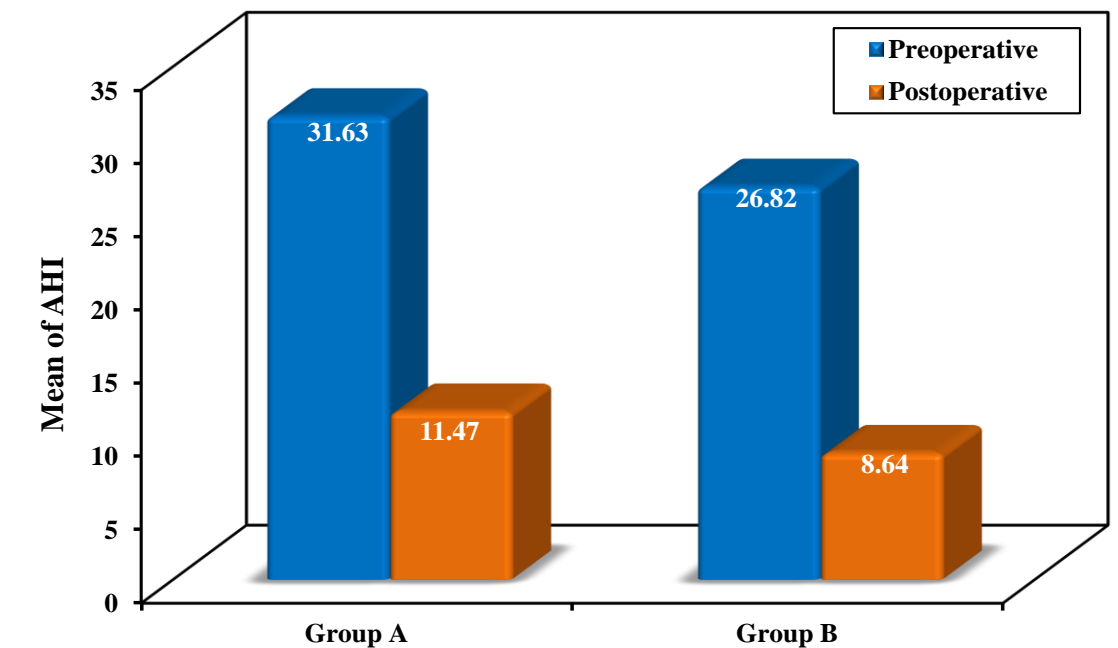


Figure: Comparison between the two studied groups according to improvement in AHI

CONCLUSION

- The newly proposed Robo-Cob technique was found to be feasible and effective in patients undergoing multilevel surgery for severe OSA.
- Robo-Cob appears to be quicker than the CELL technique with less postoperative morbidity. However, further studies are needed to evaluate its effectiveness in a large population, and with long-term follow-up.



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