

# **Anterolateral Advancement Pharyngoplasty versus Barbed Reposition Pharyngoplasty in Patients with Obstructive Sleep Apnea**

## **Objective.**

To compare functional outcomes and complication rates of Anterolateral Advancement Pharyngoplasty (ALA) versus Barbed Reposition Pharyngoplasty (BRP) in the treatment of obstructive sleep apnea patients with palatal and lateral pharyngeal wall collapse.

**Study Design.** Prospective study.

**Setting.** University hospitals.

**Subjects and Method.** Forty-six patients were included in this study. Patients were divided into two groups randomly, group 1 (23 cases) underwent anterolateral advancement pharyngoplasty and group 2 (23 cases) underwent barbed relocation pharyngoplasty. According to the following criteria: both sex, age between 18-65 years old, body mass index  $\leq 32$  kg/m<sup>2</sup>, Friedman stage II or III, type I Fujita, nocturnal polysomnography study diagnostic for OSA, retropalatal and lateral pharyngeal wall collapse, diagnosis with flexible nasoendoscopy during a Muller's maneuver based on a 5-point scale and drug-induced sleep endoscopy. Patients who suffered from retroglossal airway collapse were rolled out.

**Results.** Statistical differences were found, Apnea-hypopnea index decreased from  $27.50 \pm 11.56$  to  $11.22 \pm 7.63$  ( $P \leq .001$ ) in group 1 and from  $33.18 \pm 10.94$  to  $12.38 \pm 6.77$  ( $P \leq .001$ ) in Group 2. Retropalatal posterior airway space (PAS-t) increased from  $9.84 \pm 1.29$  mm to  $21.48 \pm 2.8$  mm ( $P \leq .001$ ) in group 1 and increased from  $10.26 \pm 1.2$  mm to  $22.86 \pm 2.62$  mm ( $P \leq .001$ ) in group 2. Retropalatal space volume increased from  $1.9 \pm 0.68$  cm<sup>3</sup> to  $2.75 \pm 0.7$  cm<sup>3</sup> ( $P \leq .001$ ) in group 1 and increased from  $1.96 \pm 0.88$  cm<sup>3</sup> to  $2.82 \pm 0.83$  cm<sup>3</sup> ( $P \leq .001$ ) in group 2. Surgical success was 86.95% in Group 1 compared to 82.6% in Group 2.

**Conclusion.** Both techniques appear to be effective with a high surgical success rate in the treatment of OSA patients with retropalatal and lateral pharyngeal wall collapse.

**Keywords.** Palatopharyngeous, apnea.