



Reply to “Palatopharyngeus muscle in pharyngoplasty surgery for OSAS: cut or not to cut?”

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We appreciate the questions raised in the letter and are grateful for the opportunity to provide our response. We believe that the questions raised combined with our response will enhance our understanding of the structure of the palatopharyngeus muscle (PPM) and its significance in the pathophysiology of obstructive sleep apnea (OSA).

The course of the PPM is generally considered to extend from the soft palate to the lateral wall of the pharynx. Accordingly, the function of PPM is considered to be limited to the shortening of the pharynx and the movement of the soft palate. However, the findings of Fukino et al. [1], which are consistent with those of Fukino et al. [2], revealed that the PPM has a wider radial extension at the pharyngeal walls and has an increased extension of muscle bundles in various directions, relative to previous considerations. Our report suggested that the PPM contributes to various functions such as closure of the nasopharyngeal cavity, shortening of the pharynx, elevation of the hyolaryngeal complex, and opening of the upper esophageal sphincter. According

to these findings, resection of the PPM can help alleviate the symptoms of OSA, and simultaneously cause the loss of the beneficial functions of the PPM; thus, PPM resection is considered a “double-edged sword” in OSA.

A part of the PPM is suggested to contribute to the closure of the nasopharyngeal cavity, which aids in normal swallowing and protection of the airway. Therefore, resection of the superior part of the PPM could cause nasopharyngeal insufficiency and could lead to the vocalization disorders and the dysphagia.

Aging is associated with a lower laryngeal position, which is independently associated with OSA severity [3]. It was then inferred that laryngeal descent may be a risk factor for OSA. The findings of the study by Fukino et al. [1, 2] revealed the insertion of PPM to the base of the epiglottis and the thyroid cartilage. Therefore, the myofunctional therapy of PPM may prevent the descent of the larynx and hence, may prevent OSA in addition to its role in preventing dysphagia.

Fukino et al. [1, 2] reveals the role of the PPM in the various stages of swallowing. With increase in age, risk of dysphagia may increase due to the weakening of the PPM. The contraction of the PPM aids in elevation of the hyolaryngeal complex and helps in the process of swallowing. In other words, the risk of dysphagia in the older age would increase with weakening of the PPM.

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Declarations

Conflict of interest The authors declare that they have no competing interests.

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