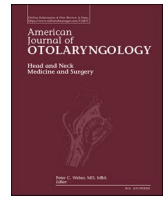


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## Dysphagia after supraglottic laryngeal cancer surgery

### ARTICLE INFO

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#### Dear Editor,

We read the paper of Li et al. entitled “Relationship between dysphagia and surgical treatment for supraglottic laryngeal carcinoma: A meta-analysis [1]”. Authors performed a meta-analysis investigating the relationship between dysphagia and the features of supraglottic laryngectomy in patients with laryngeal carcinoma. Based on 8 studies, they concluded that endoscopic supraglottic laryngectomy is associated with better swallowing outcomes and decreased aspiration events when compared to open partial horizontal laryngectomy. They hypothesize that this difference is related to preservation of the anterior epiglottic space, ventricular band, arytenoid cartilage and absence of external incision during endoscopic surgery [1].

We congratulate the authors for this paper. However, we would like to draw attention to some important points/considerations. The heterogeneity between studies and, among controlled studies, patient groups (endoscopic *versus* open partial horizontal laryngectomy (OPHL)) appears to significantly limit the results of this meta-analysis, and the impact of reliable conclusions [2].

First, the profiles of patients in the included studies may differ from one study to another. The most important point concerns the inclusion of studies investigating transoral endoscopic laryngeal surgery and others dedicated to transoral microscopic surgery. About staging, some authors mainly included cT1 and cT2 supraglottic cancers [3], while others had higher proportions of cT2 [4,5], or cT2 and cT3 cancers [6] than cT1 cancers. The stage differences across studies are an important issue/concern regarding the swallowing function assessment. Indeed, cT3 cancers are more likely associated with pre-operative and post-operative dysphagia than cT1 or cT2 [7,8]. Moreover, the treatment of cT3 cancers usually involved at least a prophylactic neck dissection, which was not considered in the study of Li et al. [1]. The lack of consideration of neck dissection in the literature analysis may bias the swallowing outcomes because neck dissection is associated with poor swallowing ability after surgery [9].

Second, the location of supraglottic cancer (medial *versus* lateral) is another issue that should/has been shown to influence the swallowing

function after surgery [10]. Li et al. reported that preservation of the anterior epiglottic space, ventricular band, and arytenoid cartilage without destroying the external framework of the larynx may reduce the risk of aspiration pneumonia. In practice, it remains difficult to support this finding when the meta-analysis was based on retrospective chart-reviews in which the swallowing function was not prospectively investigated from pre- to post-supraglottic laryngectomy. Swallowing anomalies, such as aspirations, may affect a substantial proportion of patients with untreated supraglottic cancer [11] and it remains difficult to attribute the dysphagia to a specific surgical treatment -only- *versus* the association of tissue injuries related to the tumor and the surgical treatment. Only a prospective study may provide reliable arguments to better understand the origin of post-operative dysphagia and aspiration. In addition, the prevalence of aspiration may be difficult to assess in the short follow-up period reported in some of the included studies [12,13]. Indeed, OPHL is more likely associated with postoperative edema of the laryngopharyngeal region than with endoscopic procedures, which may protect the airway from aspiration during the early post-operative stage [7,11]. Thus, in most cases, aspiration events may not occur before a few days/weeks, until the post-operative edema decreases. The short follow-up period of some studies therefore limits the analysis of aspiration outcomes.

Third, another important condition that was not discussed by the authors is the occurrence of pre-to-postoperative laryngopharyngeal reflux, which, in addition to its carcinologic risk, may be an important cause of chronic dysphagia and aspiration [14,15].

All of these issues tempered the conclusion of the authors about the relationship between supraglottic laryngectomy approaches and the development of post-operative dysphagia. Dysphagia in the patient who underwent supraglottic laryngectomy is probably/likely multifactorial and not only/solely related/a consequence of the surgical procedure.

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