

SUPRACRICOID PARTIAL LARYNGECTOMY: SWALLOWING SENESCENCE AND SAFETY

INTRODUCTION

Supracricoid laryngectomy (SCL) is a horizontal surgical procedure indicated for tumors T1b Seventy patients, predominantly elderly, aged over 60 years (80%), male (98.57%), married to T4 of the glottic and supraglottic region, whose main advantage is the preservation of (75.71%) and with low education (57.14%) were evaluated. More than 80% of the individuals were smokers and at least 60% reported alcoholism at the time of diagnosis. Adding the laryngeal functions such as laryngeal voice, swallowing and the absence of a permanent tracheostomy¹. categories single, divorced and widowed, 24.28% (N = 17) were obtained who did not report a partner at the time of collection. As for staging, a proportion of 38.57% and 32.86% was observed among individuals of staging II and III.

Its technique consists of the removal of the petiole from the epiglottis, thyroid cartilage, laryngeal ventricles, vocal folds, ventricular bands and paraglottic space, with one or both arytenoids remaining, with the epiglottic pexy and the cricoid forming a neoglottis. The Withdrawal of a nasogastric tube and tracheostomy occurred up to 45 days in 54.28% and technique of surgical reconstruction of the SCL, with cricohioidoepiglotopexy (CHEP), is 65.71%, respectively. Radiotherapy was performed in just over 30% of patients. performed by means of an elevation of the cricoid cartilage to the level of the hyoid bone, with fixation of these structures; resulting in a rearrangement of the pharyngeal recesses and Table 1. Distribution of information about habits, clinical variables and sociodemographic information a necessary modification of the swallowing process^{1,2}. SCL causes changes in swallowing due (n = 70). to partial loss of the protective mechanism, since this technique removes important structures of inferior airway protection^{3,4}.</sup>

Atrophy of the pharyngeal musculature has been identified as a natural biological process of aging in healthy individuals. Generally, an increase in the area and volume of the pharynx is observed. Healthy elderly people with larger pharyngeal cavities show worsening pharyngeal constriction, and, consequently, a greater amount of residue in the region, when compared to elderly people with smaller pharyngeal cavities⁵. It is accepted that aging can intensification the oncological results of laryngectomies. This aspect can impair the dynamics of swallowing, due to presbyphagia, such as calcification of cartilage, less muscle mobility and weak healing / vascularization in the postoperative period, which is negatively integrated with surgical issues^{2,4,6}.

OBJECTIVE

To investigate the association between age and signs of penetration and aspiration after supracricoid laryngectomy in the late period.

METHODS

The World Health Organization defines the elderly as individuals aged 60 years or older, a limit valid only for developing countries, such as Brazil. In advanced countries a cut-off point of 65 years is allowed. This aspect differs due to lower survival rates and problems associated with public health. Seventy patients, 56 (80%) >60 years and 14 (20%) <60 years, who are undergoing medical outpatient control, after cancer treatment and who do not have complaints of swallowing, perform assessments of swallowing functions by videofluoroscopy and their classification through the Penetration Aspiration Scale (PAS).

Study with descriptive analysis and simple statistical regression, chi-square test and logistic regression were applied for age categories association with the outcomes (penetration and aspiration), using R program version 3.5.3.

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RESULTS

| Variables | | Total n (%) |
|--------------------------------|-------------------|----------------|
| Gender | Male | 69(98.6) |
| | Female | 1(1.4) |
| Age related to July 2017 | < 60 | 14(20) |
| | ≥ 60 | 56(80) |
| Marital status | Married | 53(75.7) |
| | Single | 8(11.4) |
| | Divorced | 3(4.3) |
| | Widower | 6(8.6) |
| Education | No education | 2(2.9) |
| | Elementary school | 48(54.3) |
| | High School | 25(35.7) |
| | Advanced degree | 5(7.1) |
| Smoking at diagnosis | Yes | 57(81.4) |
| Ethanol use/abuse at diagnosis | Yes | 46(65.7) |
| Clinical Staging | | 19(27.1) |
| | II | 27(38.6) |
| | III | 23(32.9) |
| | IV | 1(1.4) |
| Nasogastric tube | ≤ 45 days | 38(54.3) |
| | 46 - 89 days | 20(28.6) |
| | >90 days | 12(17.1) |
| Tracheostomy | ≤ 45 days | 46(65.7) |
| | 46 - 89 days | 12(17.1) |
| | >90 days | 12(17.1) |
| Radiotherapy | Yes | 22(31.9) |
| Arytenoids Remaining | 1 | 32(47.7) |
| | 2 | 38(54.3) |

Patients over the age of 60 years had a higher prevalence of penetration (24.29%) and aspiration (48.57%) than patients under the age of 60 years. In this sample, aspiration was associated with age.

Table 2. Distribution of the group by age according to the prevalence of laryngeal penetration and aspiration

| | Penetratio n | | | Aspiration | | |
|-----------|-----------------|------------|-------|------------|------------|-------|
| | Yes | No | | Yes | No | |
| Age | n(%) | n(%) | р | n(%) | n(%) | р |
| <60 years | 5 (7.14) | 9 (12.86) | 0.787 | 12 (17.14) | 2 (2.86) | _ |
| ≥60 years | 17 (24.29) | 39 (55.71) | _ | 34 (48.57) | 22 (31.43) | 0.063 |

Patients over 60 years of age have a 27% greater chance of penetration during swallowing than patients under 60 years of age. Patients over 60 years of age have an approximately 4 times greater chance of laryngotracheal aspiration than patients under 60 years of age.

Table 3. Simple regression of the group by age according to the prevalence of laryngeal penetration and aspiration

| | | | | | | | | - |
|-------|------|-------------|-------------|-------|------------|--------------|-------|------|
| | | Penetration | | | Aspiration | | | 5. |
| Ag | je | OR | IC | р | OR | IC | р | |
| <60 y | ears | 1 | | | 1 | | | - 6. |
| ≥60 y | ears | 1.27 | (0.35-4.28) | 0.700 | 3.88 | (0.94-26.51) | 0.094 | |







Figure 1. A - Model of the anatomical result after supracricoid partial laryngectomy reconstructed with cricohyoidoepiglottopexy. B- Radiological image that exemplify the area that was considered reference for penetration and the transition to aspiration.

CONCLUSION

In patients with no complaints of swallowing in the late postoperative period of supracricoid aryngectomy, there is a greater chance of laryngotracheal aspiration in the elderly over 60 years.

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