

Neck dissection in squamous cell carcinoma of the larynx. Indication of elective contralateral neck dissection

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Keywords:

carcinoma, squamous cell, larynx, neck dissection.

Abstract

Unilateral or bilateral neck dissection must be considered in the treatment of laryngeal cancer

Aim: To evaluate the prevalence of contralateral metastases in larynx cancer and distribution of these metastases according to lymph node levels in the neck.

Method: Retrospective longitudinal study of 272 charts from patients with squamous cell cancer of the larynx treated between 1996 and 2004; and we selected 104 surgical cases submitted to neck dissection. We evaluated the incidence of bilateral or contralateral metastases, according to the location and extension of the primary tumor, considering the anatomical sub-sites and the midline.

Results: Contralateral metastases in lateral tumors were observed in 3.5% of glottic lesions and in 26% of supraglottic lesions. Contralateral metastases were uncommon in N0 patients. Lymph nodes levels IIa and III were the most commonly involved in the neck.

Conclusion: In lateral glottic tumors there is no need for elective contralateral neck dissection. In supraglottic lesions without ipsilateral metastases, the incidence of hidden metastasis does not justify elective contralateral dissection. The midline is not a reliable indicator of the risk of contralateral laryngeal tumors.

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INTRODUCTION

Lymph node metastases are the main prognostic factor in the upper air and digestive tracts, and elective neck dissection - more than a staging procedure, enables high rates of regional disease control¹. Although lymphatic drainage and the risk of metastasis in each anatomical site have been established, the indication for elective contralateral neck dissection still is controversial². The extension of this dissection has impacts both on treatment morbidity, mortality, and in disease control. The goal of the present study is to assess the prevalence and location of lymph node metastases in laryngeal tumors, according to primary tumor extension, considering the indication of contralateral neck dissection.

MATERIALS AND METHODS

We reviewed the chart from 272 patients with laryngeal epidermoid carcinoma, consecutively seen between January of 1996 and December of 2004, including 104 patients submitted to surgical treatment with neck dissection. We did 161 neck dissections - 65 were complete and 96 were selective. Primary tumor extension was determined based on the intraoperative descriptions, considering the anatomical sub-sites involved and their relationship with the median line. Thus, the lesions were classified into two groups: lesions with their center in the median line and lateralized lesions, the latter were further divided according to their relationship with the median line. We considered the lymph node levels involved in the pathology exam, according to the classification from the American Head and Neck Society, as well as the isolated regional recurrences which may eventually occur. The lymph node level classification was done by a surgeon of the team, immediately after the procedure, and they were sent separately for histological analysis. All the patients were re-staged according to the TNM-2002 classification from the UICC-AJCC, considering the physical exam upon admission. The statistical analysis used descriptive methods and the qualitative analysis used the Fisher's Exact Test, considering significant those differences with an alpha error lower than 5%.

RESULTS

The mean age was 56 years (36 to 79) - 86 males and 18 females. As to the anatomical subsite: 66 lesions were glottic, of which 40 were transglottic, 35 supra-glottic and three were extensive lesions with unidentified site of origin. As far as staging is concerned, three

patients were in stage I; 19 in stage II; 45 in stage III and 37 in stage IV. The mean follow up of asymptomatic patients was 58 months, and only six cases had less than one year of follow up.

Among the 104 cases, 53 (50,96%) had histologically confirmed metastases. Bilateral metastases happened in 22 (21%) cases. Primary tumors with epicenter in the median line or extensive tumors involving the entire organ, added to 28 cases; 15 (53%) with bilateral metastases. In the 76 cases of lateralized tumors, there were bilateral metastases in seven (9%) - and hidden in four cases. There was no case of isolated contralateral metastasis.

In the 76 cases of lateralized lesions, only 29 were submitted to bilateral dissection. Of the 47 remaining patients, 12 underwent postoperative radiotherapy, including the contralateral neck. There were two (3%) cases of bilateral metastases in 59 NO patients; and five (29%) cases among the 17 N+ patients ($p=0.005$).

Among the 57 patients with lateralized glottic lesions, there were two cases (3%) of bilateral metastases, both clinically identified. Among the 19 patients with lateralized lesions in the supraglottis, we observed bilateral metastases in five (26%), $p=0.009$; and only one was found upon physical exam. The epiglottis was involved in 15 of these patients, and all five patients with bilateral metastases had epiglottis involvement. There were nine neck recurrences, with only one case in which the contralateral neck was not dissected.

The T staging did not significantly influence the presence of bilateral metastases in the lateralized tumors. We found bilateral metastases in 1/19 (5%) of the T1 and T2 cases and in 6/57 (10%) of the T3 and T4 cases; $p=0.67$.

The metastases were predominantly in levels II and III (Table 1). Level IV metastases were found in three cases; however, level IV was not routinely separated from the surgical specimen and is underappreciated in this sample.

Table 1. Lymph node levels involved according to the type of neck dissection (n=104).

Level	Neck Dissection		Total
	Elective*	Therapeutic#	
I	1	2	3
IIa	29	29	58
IIb	1	2	3
III	11	21	32
IV	3	3	6
V	0	4	4

* 117 dissections in one side of the neck - NO.

44 dissections in one side of the neck - N+.

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