THE ROLE OF NECK DISSECTIONS IN THE ASSESSMENT OF STAGING THE NECK IN LARYNGEAL CANCERS

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SUMMARY

The correlation between the clinical and histopathological stagings of 54 patients with laryngeal cancers other than T_1 lesions that had been treated with either elective or curative neck dissections and total or patrial laryngectomy during initial surgical therapy have been presented. The clinical stagings of the necks of 38 (70.4%) patients were histopathologically accurate. The clinical examinations have led to underestimation in the necks of 12 (22%) patients and overestimation in 4 (7%) patients. Eleven (20.4%) of the underestimated patients that have been found to be N_1 was detected to be N_2 histopathologically. Three (5.5%) of the overestimated four patients were found to be false positive clinically when the surgical specimens were examined histopathologically,. The fourth patient was found to have an extraglandular Warthin's tumor.

Key words: *Neck dissection, neck staging, laryngeal cancer.*

ÖZET

İlk cerrahi tedavi sırasında total veya parsiyel larinjektomi ile birlikte elektif veya küratif boyun diseksiyonu yapılan T_1 dışı larinks kanserli 54 hastanın klinik ve histopatolojik evrelerinin ilişkisi sunulmuştur. 38 (%70.4) hastanın klinik ve histopatolojik evreleri birbiri ile uyum gösterirken, 12 (%22) hastada histopatolojik evreleme klinikten ileri ve 4 (%7)hastada da klinikten geri olarak bulunmuştur. Bu onıki hastanın klinik olarak N_0 bulunan 11 kişisinde histopatolojik evre N_1 ve N_2 olarak ve N_1 olan bir olguda da N_2 olarak bulunmuştur. Histopatolojik olarak klinik evrelemenin gerisinde olan 4 hastanın üçünde ise klinik olarak pozitif olan boyun bulguları histopatolojik olarak N_0 bulunmuştur. Dördüncu olguda ise ekstraglandüler Warthin tümörü saptanmıştır.

Anahtar Sözcükler: *Boyun diseksiyonu, boyun evrelemesi, larinks kanseri*

The radical neck dissection, in which the lymph bearing structures of the neck have been cleared among the boundaries of the mandible, the clavicle, the trapezius muscle and the midline of the neck for a patient with a palpable neck node was first described by Crile in 1906. Laryngeal surgeons have advocated elective neck dissection for patients with laryngeal and laryngopharyngeal cancers to improve the survival rate. The purpose of the elective neck dissection is to remove the occult cervical metastases with the sense of an occult node will in time become palpable. A recurrence in the neck almost invariably carries a fatal prognosis. Even in the most favorable situation, that is, the neck that is clinically negative, there are recurrences and the rate of recurrences increases as the clinical and the pathological stage of the disease advances.

The purpose of this study is to report the correlation of our clinical staging by histopathological staging.

MATERIALS and METHODS

The files of the fifty four patients who neither preoperatively nor postoperatively had irradiation therapy and who were operated on laryngeal squamous cell carcinomas of stage two to four at the Otolaryngology and head and

neck Surgery department of University of Dokuz Eylül, School of Medicine, from February 1987 to December 1993 were reviewed retrospectively. The ages of the patients were between 39 and 73 years; while the mean age was 56. Fifty-two of our patients were men and only two were women. The operations consisted of partial or total laryngectomy with ipsilateral or bilateral neck dissections. The bilateral neck dissections were either simultaneous or staged according to the site and stage of the tumor.

RESULTS

The tumors were classified according to AJCC. A minimum of two years follow up were available on all patients that periodically visit our clinic. Five patients were lost to follow up. One died in a traffic accident, one died on postoperative second day because of a cardiopulmonary arrest and one died of other unknown cause during follow up.

Clinically, 43 (79.6%) patients were found to have N_0, 5 (9.3%) patients N_1, 5 (9.3%) patients N_2, and one (1.8%) patient N_3 neck stagings with a total number of 11 (20.4%) patients with N+ necks. The histopathological assessment of the surgical specimens showed that 37 (68.5%) patients had N_0, and 17 (31.5%) patients had N+ neck stagings (Table I). 4 (7.1%) of the 6 (11.1%) patients with clinically N_0 necks were found to be N_1 and the other 2 (3.7%) were detected to be N_2 while 2 (3.7%) with clinically N_0 and 2 (3.7%) with N_1 were all found to be N_2 histopathologically. The clinical stagings were equal to histopathological stagings in the necks of 38 (70.4%), underestimated in 12 (22%) and overestimated in 4 (7%) patients. Eleven (20.4%) of the underestimated patients that have been found to be positive in histopathological examinations were clinically N_0 . The last patient who thought to be N_1 clinically was found to be N_2 histopatholo - gically. Three (5.5%) of the overestimated four patients were detected to be false positive clinically when the surgical specimens were examined histopathologically. The fourth one had an histopathological diagnosis of an extraglandular Warthin's tumor. When histopathological stagings were taken into account 28 (75.7%) and 17 (45.9%) patients with initially N_0 necks, and 7 (41.2%) and 2 (11.8%) of the patients with positive necks were alive with no evidence of disease for two and five years respectively. Totally for two years 35 (64.8%) and for five years 19 (35.2%) patients had survived with no evidence of disease (Table II).

Table I: The clinical and histopathological staging of the neck dissection specimens of the patients

	N_0	N_1	N_2	N_3	Total
Clinical staging	43(79.60%)	5(9.30%)	5(9.30%)	1(1.80%)	54
Histopathological staging	37(68.50%)	8(14.85%)	8(14.85%)	1(1.80%)	54

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Table II: The survival rate of the patients according to their histopathological neck stagings. (NED: No evidence of disease)

	NED for 2 years	NED for 5 years
N_0	28(75.7%)	17(45.9%)
N_+	7(41.2%)	2(11.8%)
N_0 and N_+	35(64.8%)	19(35.2%)

DISCUSSION

The management of patients with laryngeal squamous cell carcinomas varies according to the site and stage of the primary tumor and the neck. Patients who have been considered to have clinically positive or negative neck nodes having a primary other than T_1 glottic tumor had an en bloc neck dissection in our series.

It has been reported that in necks staged both clinically and pathologically, stagings were accurate in 65%, underestimated in 27.6%, and overestimated in 7.8% of the time (1). Our stagings in necks were accurate in 70.4%, underestimated in 22%, and overestimated in 7% that were close to their results.

Some authors, after a review of the literature had recommended delay of neck dissection until clinical metastases developed (2). Same writers have reported that their studies either did not show a decrease in cure rate or had a low rate of failure or a high clinical accuracy of neck staging. On the other hand others have recommended elective neck dissection for a 28% incidence of occult neck disease in their series (3). 37% incidences of occult neck metastases have been reported in a series of laryngeal cancers (4). Eleven (20.4%) of the underestimated patients in our series had N_0 necks clinically and found out to be N_+ histopathologically, which we can be defined as occult metastases.

It has been suggested that the patients in whom clinical metastases develop after primary treatment do not do as well as patients with the same stage of the disease who are treated at the time of the primary treatment (5). If cervical node metastases are clinically detectable at the time of neck dissection, 35-40% of patients will survive five years in contrast to the 70% survival expectancy in patients without overt metastases (6). Survivals of patients without histological evidence of lymph node metastases were reported to be significantly better than those with nodal metastases (4). In this retrospective study it has been found that 75.7% and 45.9% of the patients with histopathologically negative neck dissection specimens survived for two and five years respectively. On the other hand 41.2% of the patients with metastatic cervical lymph nodes initially lived for two years and 11.8% for five years. Overall survival rates for two and five years were 64.8% and 35.2% respectively. We believe that, neck dissections in patients having laryngeal squamous cell carcinomas, raise the survival rates.

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