Original Article

# Role of Neck Dissection in N0 Neck for Cheek Cancer



Mushtaque Ali Memon[1] Danish Raheem[1] and Qambar Ali laghari[2]


## ABSTRACT

**Objective:** To see the frequency of cervical nodal metastasis and involvement of different levels in Ca: cheek
**Study Design:** Descriptive study.
**Place and Duration of Study:** This study was conducted at the Department of ENT of DUHS Civil Hospital Karachi from January 2007 to October 2008.
**Materials and Methods:** Data recorded on prescribed proforma from all histopathologically proven cases of SCC of cheek with or without palpable node of neck node. All admitted through the Out Patient Department in ENT ward and confirmed after neck dissection for positive nodes at different level(s).
**Results:** Cervical metastasis found in the 33.33% of the patients. Level I in 99.98% cases and the level II in the 83.33% cases were usually involved neck levels with Cheek's carcinoma.
**Conclusion:** Study concluded that the elective neck dissectionmay be carried out as the routine case in the carcinoma of the check.

**Key Words:** Ca: Cheek, Neck dissection, Lymph node metastasis

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## INTRODUCTION

Cancer is a universal problem. Since many years, the physicians are struggling for diagnosing and managing these cases. Oral carcinoma is second commonest cancer in Pakistan after lung carcinoma in males and breast carcinoma in females[1]. A great several factors are associated with the Ca: Cheek and oral malignancies having strong association with chewing habits of tobacco, Naswar and BQ with tobacco or without tobacco[2-4]. In our region cheek is commonest site of SCC because of the chewing different types of tobaccos, which include naswar and betal quid with or without tobacco[5] and it has comparatively low rate of metastasis[4]. Nodal metastasis is very common poor prognostic factor in SCC of cheek, even there are controversies regarding their management. Increases nodal metastasis in turn to increase T stage[6] once the neck nodes are involved the survival rate drops up tohalf[7]. Clinical examination is a frequent tool for assessment of regional cervical lymph nodes, but their reliability is doubtful, false positive or negative results are seen in about 20-30 percent cases. CT scan may detect malignant cervical lymph nodes in a better way. It is well known that the node which large from 1cm in the size on CT scan may have malignant disease, but those at lower level when present 1.5 cm size is considered to be malignant.[8]

[1.] Department of ENT / Surgery[2], LUMHS, Hyderabad.

Correspondence: Dr. Mushtaque Ali Memom, Department of ENT, Liaquat University Hospital Hyderabad.
Contact No: 0313 2851728
Email: dr.sajidarain@yahoo.com

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In the N0 necks, it is considered that neck dissections has a therapeutic role and thus contribute in rising five-year survival rate for oral cancers since last five years.[9, 10]

Many authors have query for comprehensive neck dissections roll in treatment of limited positive cervical nodal disease.[11, 12] In another study demonstrated that when cervical node metastasis probability is occur greater than 20%, the neck may treated electively.[4] This may include all stage III and most T2 cheek carcinomas.[13]

## MATERIALS AND METHODS

This descriptive study was conducted at the Department of ENT of DUHS Civil Hospital Karachi from January 2007 to October 2008.

**Inclusion Criteria:** 30 patients, all the cases with all age groups either gender presented to ENT OPD or ENT ward of Civil Hospital Karachi with biopsy proven carcinoma of cheek with or without palpable neck nodes were included in this study.

**Exclusion Criteria:** Cases treated elsewhere orwithout documentary evidence, residual or recurrent diseases or exposed to chemotherapy or radiotherapy were excluded from this study.

**Data Collection Procedure:** This was descriptive case series study. All the patients irrespective to the age and sex with biopsy proven carcinoma of cheek and neck nodes proven clinically or radiologically presenting to ENT Department were incorporated. The demographic data like name, age, sex, contact no: of patient and address, clinical findings of cheek lesion whether ulcerative or exophytic, with site, size and clinical

findings of neck nodes like palpable or not, level involvement with number of lymph nodes & size of largest one, CT scan findings (from base of skull to the root of neck), in clinically suspected cases of distant metastasis either present or absent on the basis of radiology like chest X–ray and abdominal ultrasound or C.T Scan of the chest and the abdomen inrequired cases. All data was entered in a prescribed proforma. Mostly Punch or Wedge Biopsies were taken and histopathological findings and stage of the disease were also noted. Primary lesion resections were done along with the dissection of the neck. Extent of the neck dissection contains on the presenting neck status. Cases having palpable neck nodes underwent a modified radical or radical neck dissection while clinically impalpable or occasionally limited N1 illness usually had selective for dissection of the neck. Specimens divided into anatomical levels in the operation theater and then sent for histopathology. All the results were entered in a prescribed proforma. Data was entered and analyzed by using SPSS version 16.

## RESULTS

Total 30 cases were studied, out of them 18 (60%) were male and 12 (40%) were females with ratio of1.5: 1 (Figure 1).

Mean age of the study cases was found 44.93± 12.15 years. Minimum age was 18-years and maximum was 68 years. (Figure 2).

The characteristic of primary lesion was exophytic in 20(66.6%) patients while 10(33.3%) patients were presented with ulcerative type of lesion.

In this study total 11 (36.66%) cases were found with presentations of positive neck nodes (cN+) while 19 (63.33%) were presented with clinically impalpable neck nodes. CT positive neck was found in all 30(100%) patients, while no distant metastasis had found in any patient. In this series 23 (76.66%) cases were with stage IV of the disease and 7 (23.33%) cases were with stage III of the disease (Table 1).

Neck dissection was done in all 30 cases according to clinical presentation, which was revealed that 20 (66.66%) patients were undergone in selective neck dissection, 8 (26.66%) cases underwent modified radical dissection of the neck and 2 (6.66%) cases underwent radical dissection of the neck.

Out of 30 cases 11 (36.66%) were shown histopathologically positive neck nodes while remaining 19 (63.33%) were histopathologically negative neck nodes. Histopathological differentiation found in this case series were 22 (73.33%) patients showed moderately differentiated SCC, 7 (23.33%) patients with well-differentiated SCC and 1 (3.33%) with poorly differentiated SCC. It was also revealed that out of 11 positive neck nodes 7 (63.63%) patients of moderately differentiated SCC, 1(09.09%) of poorly differentiated SCC and 3 (27.27%) of well-differentiated SCC showed cervical metastasis.

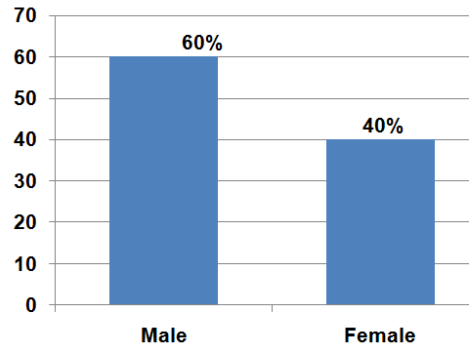


**Figure No.1: Gender Distribution n=30**

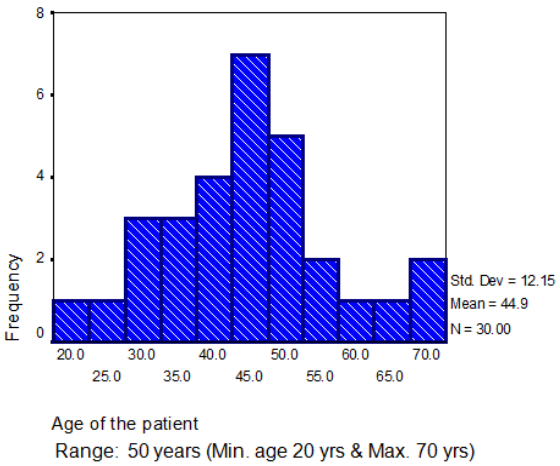


**Figure No. 2: Presentation of Ca Cheek in different age group n=30**

**Table No.1: TNM Classification(staging with positive CT Scan) (n = 30)**

| Stage | No. of patients | Tumor size | Neck nodes | Metastasis | % |
|---|---|---|---|---|---|
| **I** | 0 | T1 | N0 | M0 | 0.00 |
| **II** | 0 | T2 | N0 | M0 | 0.00 |
| **III** | 0 | T3 | N0 | M0 | 0.00 |
| | 01 | T1 | N1 | M0 | 3.33 |
| | 06 | T2 | N1 | M0 | 20.00 |
| | 03 | T3 | N1 | M0 | 10.00 |
| **IVA** | 0 | T4a | N0,N1 | M0 | 0.00 |
| | 01 | T1 | N2 | M0 | 3.33 |
| | 10 | T2 | N2 | M0 | 33.33 |
| | 08 | T3 | N2 | M0 | 26.66 |
| | 01 | T4a | N2 | M0 | 3.33 |
| **IVB** | 0 | Any T | N3 | M0 | 0.00 |
| | 0 | Tb | Any N | M0 | 0.00 |
| **IVC** | 0 | Any T | Any N | M1 | 0.00 |

In these 11 cases of histopathologically positive neck nodes of Ca: Cheek, 10 (90.90%) patients were shown involvement at level I & II, 4 (36.36%) at level I, II & III, 1 (9.09 %) at level I and 1 (9.09%) at level I, II, III & IV (Table 2) while individual involvement of neck levels in Ca: Cheek were level I in 11 (99.98 %) patients, level II in 10 (83.33%) patients, level III in

6(54.54 %} patients, level IV in 2 (18.18 %) patients.

**Table No.2: Histopathological proven neck levels involved in Ca: Cheek (n = 11)**

| Level (s) | No | % |
|---|---|---|
| I &II | 10 | 90.90 |
| I, II, III | 4 | 36.36 |
| I | 1 | 09.09 |
| I, II, III, IV | 1 | 09.09 |

# DISCUSSION

Head and neck cancers constitute about 5% of overall malignancies in the world, and incidence of head and neck tumors is rising. Mostly tumors are SCC, which shares about 95% in head and neck.[14]

The lymph node involvement is usually considered as most significant prognostic factor of the SCC of cheek and in fact the positive neck nodes decrease survival rate up to 50%.[15,16] After all, cervical metastases at initial evaluation are present in nearly 30% of patients. When we consider in all T stages, the frequency of occult metastases varies in between 19% to 40%.[17] There is strong relationship between patient's survival rate and +ve metastatic neck nodes at initial presentations. Mathew- Iypeetal (India) has mentioned statistically proven changes in illness of free survival having N0- N1 as compared to those having N2- N3.[18]

Ca cheek is common in our country[45] and it is almost a disease of elder people, because of their exposure to risk factors. Our study shows 53.33% persons are belonged to 50- 60 years of age which is comparable to study of Ali et al in which there is 54.55% of the same age group,[19] while in contrast Jamal et al have seen majority of patients in between 60 and 70 years of age and Khan et al observed majority in 7th decade.[20] Comparatively mean age of our case series is 44.93 years which is resembling with Effiom et al 45.3 yrs[21] and Kayembe et al 48.39 yrs[22] this contradict to Andisheh-Tadbir et al shows 56.9 years.[23] Our study shows male preponderance 63.33% this is possibly because of chewing tobacco, eating gutka and using naswar is comparable with Wahid et al, 60% males while in contradict Anwer et al found 51% females[24] (SCC of the oral cavity is generally said to be exophytic, ulcerative or infiltrative on gross pathological appearance. In our study most of the lesion were exophytic (66.6%) followed by exophytic (33.3%).

In this case series moderately differentiated SCC was seen in 73.33% followed by well-differentiated SCC 23.33% and poorly differentiated carcinoma 3.33% which was in contrast to Chidzonga study in which there was 64.8% well differentiated SCC, 24.8% moderately differentiated SCC and 10.4% poorly differentiated SCC.[25] Lymphatic spread of SCC also depends upon the degree of differentiation and it was concluded from various studies that poorer the tumor differentiation more are its chances of metastasis.[26, 27,28,] In our study cervical metastasis was high in moderately differentiated SCC as compared to poorly differentiated SCC and well-differentiated SCC. The difference in result may because small number of patients of poorly and well-differentiated SCC in our study. So it is advisable that if poorer the tumor differentiation, the neck may be treated more aggressively.

In our series 36.6% cases were with palpable neck nodes clinically. similarly G.I Smith et al[29]reported that clinically palpable nodes of the neck were in 21 cases out of 171 cases with the oral SCC.[29]At present, dissection of the neck with the histologic examination is the best staging procedure which keeps very important information regarding prognosis. In our series dissection of the neck was carried out in all cases whether neck node(s) were palpable clinically or not. Mostly in the cases (66.66%)elective neck dissection had carried out in clinically N0 disease and also in the several patients limited clinically N1 illness. In the some clinical N1 disease the neck remained addressed selectively from the level 1 to 4. As well as modified radical dissection of the neck had done in (26.66%) and only radical dissection of the neck in (6.66%) cases had done with presentation of palpable neck nodes. Umeda et al reported that CT scan very important diagnostic tool for early diagnosis of neck metastasis.[30] It is also suggested by us the CT scan prior to the treatment of the neck should be done in all cases. In the light of this study, it is suggested that elective dissection of the neck should be carried out on the routine base in the oral SCC.

# CONCLUSION

It was concluded that oral cavity is favorable site for the cervical metastasis. Level I and level II are the most frequently elaborated neck levels than the other buccal SCC levels. The analysis of the study revealed that due to big prevalence of cervical metastasis in SCC of the cheek, neck dissection may be performed on near routine basis but whether to do selective or comprehensive neck dissection for clinically impalpable or palpable neck nodes, a properly designed study with sufficient number of cases is required.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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