



EVALUATION OF SITE OF PRIMARY MALIGNANCY IN PATIENTS WITH SECONDARIES NECK: A CLINICAL STUDY

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ABSTRACT **Introduction** :Head and neck cancers form the 5th most common cancer type and cause for cancer related deaths worldwide. Many tumors within the head and neck will at some stage metastasize to lymph nodes . Sometimes enlarged neck nodes is the first clinical presentation. Survival of patient depends on extent and site of primary and size and level of lymph nodes involved. **Objective:** To study and evaluate the site of primary malignancy in cases of patient's presenting with secondaries in neck region. **Material and method:** This was a cross-sectional study done in Government Medical College, Haldwani in patients presenting with neck secondaries with unknown primary, from October 2016 to September 2018. **Results:** Age group most commonly involved was 51-70 years with male dominance. N1 was the most common node involved followed by N2, N3. In neck nodes most frequently involved was level II followed by level I. In neck secondaries , primary most commonly detected from oropharynx followed by larynx. **Conclusion:** Contrary to previous studies, which showed that most common secondaries of neck are from larynx, our study showed that most common involvement is of oropharynx followed by larynx. Majority of primary biopsies showed squamous cell carcinoma in histopathological examination.

KEYWORDS : Secondaries neck, metastatic neck nodes, unknown primary

INTRODUCTION

Head and neck cancers form the 5th most common cancer type and cause for cancer related deaths worldwide. Many tumors within the head and neck will at some stage metastasize to lymph nodes and there are number of factors that control the natural history and spread of disease. Metastasized lymph node with no evidence of primary tumour on adequate clinical examination, fiberoptic endoscopy and conventional radiological investigation is known as "primary of unknown origin". It accounts for only 2-3 percent of patients with head and neck malignancy. The term 'occult disease' is used to describe the presence of metastases in the neck nodes that cannot be clinically or radiologically identified. This falls into two categories: (1) occult metastases that can be identified on light microscopy and (2) micrometastases measuring less than 2mm that need special histopathological techniques (immunohistochemistry, step serial sectioning and molecular analysis) for identification. The incidence of metastasis with an occult primary lesion varies between 5-10%.

This study was done to evaluate the site of primary malignancy in cases of patient's presenting with secondaries in neck region to a tertiary care hospital .

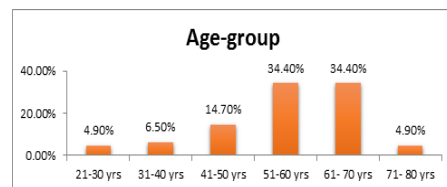
MATERIAL AND METHOD

Study was initiated after obtaining the approval and clearance from institutional ethical committee and with written consent from all study participants. This was a cross-sectional study conducted from October 2016 to September 2018 in ENT OPD Of Dr Susheela Tiwari Government Hospital, Haldwani . Patients diagnosed with neck secondaries were included in the study. Patients having benign neoplasm and those presented with recurrence or residual disease were excluded from study. Complete ENT clinical and fibrescopic evaluation was done. Chest X-Ray and USG neck/ USG abdomen was done wherever required. Similarly, CT/MRI/PET scan was done if required. If FNAC/ biopsy was done somewhere else then slides were reviewed. Physical examination under general anaesthesia, including inspection and palpation of the oral cavity, base of tongue, oropharynx, nasopharynx & evaluation of lower body parts such as breast, lungs,

testis etc. according to primary echelon sites was done. Triple endoscopy was done. Tissue for biopsy was taken if abnormal mucosa was seen or palpated. If there were no visible or palpable abnormalities, and the FNAC suggested squamous cell carcinoma or poorly differentiated malignancy, biopsy of sites of suspected primary depending on the position of involved nodes was performed. This usually included biopsies of the, nasopharynx, base of the tongue and pyriform sinus.

RESULTS

Most of the patients were in the age group of 51-70 years (68.8 percent). Minimum age was 22 years whereas the maximum being 75 years.



In gender distribution male preponderance was seen (82.0 percent). In nodal involvement, N1 were involved in 29 cases (47.5%), N2 in 28 cases (45.9%), out of which N2a was involved in 8 cases (13.1%), N2b in 13 cases (21.3%) & N2c in 7 cases (11.5%) while N3 involvement seen in only 4 cases (6.5%).

Frequency of nodal status

Nodal status	N	Percentage (%)	
N1	29	47.5%	
N2	2a	8	13.1%
	2b	13	21.3%
	2c	7	11.5%
N3	4	6.6%	
Total	61	100%	

Neck lymph node level involved was level II with 32 cases (52.5%) followed by Level I with 15 cases (24.6%), II & III with 6 cases (9.8%), III with 3 cases (4.9%), I & II with 2 cases (3.3%), IV with 2 cases (3.3%) and a single case involving Level V (1.6%).

Level	N	Percentage (%)
1	15	24.6%
2	32	52.5%
3	3	4.9%
4	2	3.3%
5	1	1.6%
1 & 2	2	3.3%
2 & 3	6	9.8%
Total	61	100.0%

Neck node levels involved: Primary biopsies showed squamous cell carcinomas in 50 cases (82.0%), followed by undifferentiated carcinoma in 8 cases (13%). In 2 (3.2%) individuals primary could not be detected while Adenoid Cystic carcinoma was found in 1 case (1.6%). FNAC of lymph nodes done showed well differentiated carcinoma in 24 cases (39.3%), moderately differentiated SCC in 15 cases (24.6%), poorly differentiated SCC in 12 cases (19.7%), adenocystic carcinoma in 1 case (1.6%), undifferentiated carcinoma in 9 (14.8%) cases.

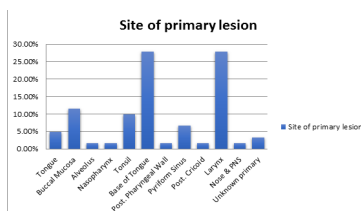
Correlation between fnac of lymph node and biopsy of primary site:

Primary Site		Histopathological variant in FNAC & Biopsy		
		Total cases	Same variant	Different variant
Oral cavity	Tongue	3	3	0
	Alveolus	1	1	0
	Buccal Mucosa	7	7	0
Oropharynx	Tonsils	6	5	1
	Base of Tongue	17	9	8
Nose & PNS		1	1	0
Nasopharynx		1	0	1
Larynx	Supraglottic	17	12	5
Hypopharynx	Post Pharyngeal Wall	1	1	0
	Post. Cricoid & Oesophagus	1	0	1
	Pyriiform Sinus	4	3	1
Total (excluding Unknown Primaries)		59	42	17

Primary was seen from oropharynx in 23 cases (37.7%), larynx (supraglottic) in 17 cases (27.9%), oral cavity in 11 cases (18%). Hypopharynx involvement was found in 6 cases (9.9%), while single cases of PNS involvement and nasopharynx were detected. Primary remained undetected in 2 cases (3.3%).

Sites of primary lesion-

S. No.	Sites of primary lesion	Cases	Percentage (%)
1.	Oral cavity	Tongue	3 4.9%
		Buccal Mucosa	7 11.5%
		Alveolus	1 1.6%
2.	Nasopharynx	1	1.6%
3.	Oropharynx	Tonsil	6 9.9%
		Base of Tongue	17 27.9%
4.	Hypopharynx	Post. Pharyngeal Wall	1 1.6%
		Pyriiform Sinus	4 6.6%
		Post. Cricoid & Oesophagus	1 1.6%
5.	Larynx (Supraglottic)	17	27.9%
6.	Nose & PNS	1	1.6%
7.	Unknown primary	2	3.3%
	Total	61	100.0%



Lymph node level and primary site of malignancy:

SITE OF PRIMARY	LYMPH NODE LEVEL (Considering levels unilateral & bilateral)				
	I	II	III	IV	V
Oral Cavity	10	1	-	-	-
Oropharynx	7	17	2	-	-
Nose & PNS	-	1	-	-	-
Nasopharynx	-	-	-	-	1
Hypopharynx	-	3	1	2	-
Larynx (Supraglottic)	-	16	4	-	-
Unknown Primary	-	2	2	-	-

DISCUSSION

Metastatic cervical lymph nodes are the commonest cause of cervical lymphadenopathy in adults and elderly^{1,2}. It may occur from various primary sites. 85% of the tumour deposited in the neck nodes originates from above the clavicle and 15% below the clavicles³. About 90% of the supraclavicular primaries are squamous in nature. Most of the carcinoma arise from the surface epithelium of upper aerodigestive tract. Common presenting sites are larynx, pyriform fossa, tonsils, base of the tongue and nasopharynx. A small percentage of the supraclavicular primaries may be non squamous in origin arising from thyroid gland, salivary glands and skin of head and neck region^{3,4}. Primary sites, however, may remain undiscovered in upto 10% cases⁵.

In this study, A primary lesion was identified in 59 (96.7%) cases, however primary sites remained undetected in 2(3.3%) cases. maximum patients attending outpatient department having secondaries in neck region were predominantly in the 51-70 year age group (68.8%) our study showed male preponderance, 50 of the total number of 61 patients (82.0%), with male to female ratio of 4.5:1. This ratio can be attributed to more incidence of tobacco chewing in males and less awareness in females in this region of the country.

In this study, it was found that among lymph nodes of neck, N1 (29 cases) was the most commonly affected followed closely by N2 (28 cases) followed by N3 involvement. In our study most frequently involved neck lymph node level is level II with 32 cases (52.5%) followed by Level I with 15 cases (24.6%), II & III with 6 cases (9.8%), III with 3 cases (4.9%), I & II with 2 cases (3.3%), IV with 2 cases (3.3%) and a single case involving Level V (1.6%).

Squamous cell carcinoma is predominant histology in primary of metastasized lymph nodes. Even In our study, majority of the primary biopsies showed squamous cell carcinomas (82.0%), followed by undifferentiated carcinoma (13%). In majority of studies done across the world primary of metastasis lymph node most commonly occur in larynx whereas our analysis showed oropharyngeal (37.7%) followed by larynx(27.9%) are most common primaries.

In our study, Level I nodes were involved in only primaries of oral cavity (10 cases) and oropharynx (7 cases). Level 4 nodes were involved in hypopharynx only (2 cases), while Level 5 nodes involvement seen only in primary of nasopharynx (1 case). No involvement of level 6 lymph nodes seen. Level 2 nodes seen majorly in oropharynx (17 cases) and larynx (16 cases). Level 3 nodes found majorly in Primaries associated with Larynx.

CONCLUSION

Contrary to previous studies, which showed that most common secondaries of neck are from larynx, our study showed that most common involvement is of oropharynx followed by larynx. Majority of primary biopsies showed squamous cell carcinoma in histopathological examination. Level I nodes were involved in only primaries of oral cavity and oropharynx. Level 4 nodes were involved in hypopharynx only, while level 5 nodes involvement seen only in primary of nasopharynx. No involvement of level 6 lymph nodes seen. Level 2 nodes seen majorly in oropharynx and larynx . Level 3 nodes found majorly in primaries associated with larynx. So clinically and radiologically knowing lymph node involved we can suspect the primary site of malignancy. This may help in early diagnosis of primary site of the malignancy and may increase survival rate of the patients.

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