

Original Article

Pattern of Metastases of Squamous Cell Carcinoma in Cervical Lymph Node with Occult Primary

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Abstract

Objective: To determine the pattern of metastasis of squamous cell carcinoma in cervical lymph node.

Methods: This was an observational cross sectional study which was carried out in the departments of Otolaryngology and Head-Neck surgery of Bangabondhu Sheikh Mujib Medical University and Dhaka Medical College Hospital during the period of July 2012 to March 2013. A Total 30 patients were selected according to selection criteria and level of involved lymph node and nodal staging was determined by careful clinical examination, biopsy of all suspicious site, CT scan, MRI, USG and X-ray.

Results: In this study majority of patients were within 40-80 years and most of patients were male. Maximum lymph nodes were 3-6 cm in size. 90% cases were unilateral. 50% cases were involved in level-II and most of cases (46.68%) were in stage N₂.

Conclusion: Metastatic squamous cell carcinoma in cervical lymph node of occult primary common in elderly patient and most of were male and involved the lymph node level II.

Key words: Squamous cell carcinoma, metastasis, occult primary, cervical lymph node.

Introduction

Presentation of metastatic neck lymphadenopathy without a primary lesion within a

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subsequent five year period is known as occult primary carcinoma. The diagnosis can only be made after a thorough physical examination and radiographic evaluation has been performed on those regions of the body that are most likely to harbour the unknown primary.

The term carcinoma of unknown primary origin should be used if no evidence of primary tumour is found after adequate clinical examination, fiberoptic endoscopy and conventional radiological investigations. Now-a-days FDG-PET and FDG-CT has introduced.¹

Carcinoma of unknown primary site represent a heterogenous group of malignancies

presenting with lymph node or distant metastasis for which diagnostic work up fails to identify the site of origin.² It accounts for only 2-3% of patients with head & neck malignancy¹. Carcinoma of unknown primary is about 5-10% of all tumours. Metastasis most commonly developed at nodal levels II and III with less frequent involvement of level I, IV, V and VI. Squamous cell carcinoma is the most common histiotype in case of unknown primary.

Diagnostic procedures of carcinoma of unknown primary include a full ENT examination with nasoendoscopic examination of upper aero-digestive tract, CT scan and MRI. Examination under general anaesthesia should be performed which consists of laryngo-pharyngo-esophagoscopy and careful palpation of tongue base. In absence of obvious primary on endoscopy tonsillectomy and biopsy from tongue base, post nasal space, pyriform fossa should be performed.

These conventional process of clinical examination, panendoscopy, CT and/or MRI followed by panendoscopy with biopsy have been shown to reveal the primary site in over 40% of patients initially diagnosed with neck node metastasis squamous cell carcinoma of unknown primary origin.³

Cervical lymph node metastasis in occult primary may present as the first and only symptom.

So it is essential to know the level of involvement, number of nodes, size of nodes and fixity of nodes in order to identify the primary site as well as staging of the disease which will help to assess the prognosis of the disease.

Objectives

General objective:

- To study of pattern of metastasis of squamous cell carcinoma in cervical lymph node of unknown primary.

Specific objectives:

- To find out the level of involvement of lymph node in neck.
- To make nodal staging.

Methods:

Study design: Observational cross sectional study.

Study period: The total period of study was 9 months (July 2012 to March 2013).

Study place: The study was carried out in department of otolaryngology and head-neck surgery, Bangabandhu Sheikh Mujib Medical University and Dhaka Medical College Hospital.

Study population:

Patient of cervical lymph node metastasis with squamous cell carcinoma in occult primary.

Selection criteria:

• Inclusion criteria

The male and female patient of cervical lymph node metastasis of squamous cell carcinoma with occult primary.

• Exclusion criteria

Metastatic neck mass other than squamous cell carcinoma.

Sample size: 30

Sampling technique: Purposive sampling technique was adopted. All the available subjects during the data collection period who fulfilled the study selection criteria were included in the study.

Data collection technique: Complete history taking and clinical examination were done and recorded in data collection sheet.

Data analysis: After collection all the data were checked and edited. Then data were entered into computer with the help of software SPSS 16 version.

Results

Table I
Distribution of Age group (n=30)

Age group (Years)	Number of cases	Percentage (%)
20-30	Nil	0
31-40	1	3.33
41-50	6	20.00
51-60	15	50.00
61-70	6	20.00
71-80	2	6.66

Most of patient belonged to age 51-60 years.

The male to female ratio was 4:1

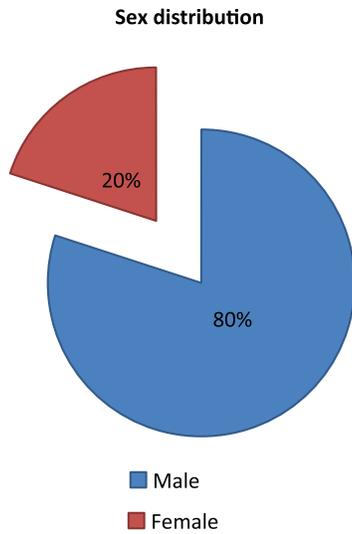


Fig.-1: Sex distribution

Table- II

Distribution and status of involved lymph node

A.

Distribution of nodes	Number of cases	Percentage
Unilateral	27	90.00
Bilateral	03	10.00

B.

No. of node involvement	Number of cases	Percentage
Single	16	53.33
Multiple	14	46.66

C.

Consistency	Number of cases	Percentage
Hard	15	50.00
Firm to Hard	10	33.33
Firm	05	16.66

D.

Mobility	Number of cases	Percentage
Mobile	18	60.00
Fixed	12	40.00

E.

Size of nodes	Number of cases	Percentage
<3 cm	12	40.00
3- 6cm	14	46.66
>6 cm	04	13.33

Table-III

Level of involved lymph node in unknown primary cases (n=30)

Level of nodes	Number of cases	Percentage
Level- I	02	06.00
Level- II	12	40.00
Level- II+III	03	10.00
Level- III	05	16.66
Level- III+IV	02	06.66
Level- IV	02	06.66
Level- IV+V	01	03.33
Level- V	03	10.00

Highest involvement in Level-II and Level-III

Table IV

Staging of Lymph node in unknown Primary(n=30)

Stage	Number of cases	Percentage
Stage - N ₁	12	40.00
Stage -N ₂	14	43.66
Stage - N ₃	04	13.33

Highest presentation in N₂ stage.

Discussion:

Patients with cervical lymph node metastasis from unknown primary tumour present both diagnostic and therapeutic problems. It is difficult to find out pattern of metastasis in neck of squamous cell carcinoma of unknown origin as only a few studies are available in our country.

30 patients with metastatic neck node in whom the primary tumour was not found despite of extensive diagnostic procedure were studied in this series. Male female ratio was found 4:1 which is consistent with other relevant studies.^{4,5} Age of majority of patients (90%) were in fifth to seventh decade

that are similar to different studies carried out in India.⁶

Unilateral neck node metastasis was found in 90% cases and bilateral in 10% cases. There is high incidence of unilateral metastatic neck node.^{7,8} G.B Snow et al found 88% ipsilateral and 12% bilateral metastatic neck node which is consistent with this study.⁹

Involved lymph node was found single in 53.33% and multiple in 46.66% cases in our study. Single and multiple lymph node enlargement were found in 61.3% and 38.7% respectively in one study.⁹ Another study revealed solitary involvement in 52.4%-62.6% and multiple in 37.5%-47.6% cases.⁴ Consistency of lymph nodes were found hard in 50%, firm to hard in 33.33% and firm in 16.66% cases in our study which is more or less similar to another study where hard in 55%, firm to hard in 40% and firm in 5% cases.⁹

In this study nodes were found less than 3 cm in 40% cases, 3-6cm in 46.66% cases and more than 6 cm in 13.33% cases. G.B Snow et al showed <3cm in 85% cases and >3cm in 15% cases only.⁹ This indicates more late presentation of patients in our country which corresponds with ignorance, illiteracy and poor socio-economic status of our people. In 60% cases lymph nodes were found mobile and 40% cases were found fixed. Mobility of nodes varied 57% to 60% and fixed 40% to 43% in studies carried out in Bangladesh.^{7,8}

While levelling of the lymph node was concerned, in this study the most commonly involved lymph node region was level-II (50%) followed by level-III (36.66%). This is with agreement with most other studies demonstrating that the upper jugular lymph node chain is most commonly involved with head and neck nodal metastasis.^{2,5,10}

In this study 40% cases were in stage N₁, 43.66% in stage N₂ and 13.33% in stage N₃. The higher incidence of N₂ stage of lymph node in our series is well reported by other Bangladeshi series.^{5, 10}

Conclusion

This study was undertaken to assess the pattern of metastasis of squamous cell carcinoma of occult primary in cervical lymph node. It can be concluded that metastatic carcinoma in cervical lymph node is more common in elderly patient and majority of cases are involve level-II cervical lymph node.

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