

Original Research Article

Pattern of Metastases of Squamous Cell Carcinoma in Cervical Lymph Node In Patients With Occult Primary

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Abstract: Introduction: Squamous cell carcinoma is the most common cancer of the upper aerodigestive tract, accounting for more than 90% of cancers. Its method of spread is through lymphatic channels, with a high propensity toward deposition in the regional lymph nodes. **Objective:** To determine the pattern of metastasis of squamous cell carcinoma in cervical lymph node in patients with occult primary. **Methods:** This was an observational cross sectional study which was carried out in the Dept. of ENT, Abdul Malek Ukil Medical College Hospital, Noakhali, Bangladesh from January 2017 to June-2019. A Total 31 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:** Thirty One patients with metastatic neck node in whom the primary tumour was not found despite of extensive diagnostic procedure were studied in this series. Patients distribution Male were 78% and female 22%. In this study majority of patients were within 40-80 years and most of patients were male. Unilateral neck node metastasis was found in 90.32% cases and bilateral in 09.68% cases. There is high incidence of unilateral metastatic neck node. Involved lymph node was found single in 54.83% and multiple in 45.17% cases in our study. Consistency of lymph nodes were found hard in 51.61%, firm to hard in 32.25% and firm in 16.12% cases in our study. In this study nodes were found less than 3 cm in 38.70% cases, 3-6 cm in 48.38% cases and more than 6 cm in 12.90% cases. While levelling of the lymph node was concerned, in this study the most commonly involved lymph node region was level-II (41.93%) followed by level-III (16.12%). In this study 38.70% cases were in stage N₁, 48.38% in stage N₂ and 12.90% in stage N₃. Maximum lymph nodes were 3-6 cm in size. **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.

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

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INTRODUCTION

Squamous cell carcinoma is the most common cancer of the upper aerodigestive tract, accounting for more than 90% of cancers. Its method of spread is through lymphatic channels, with a high propensity toward deposition in the regional lymph nodes. It is well known that the presence of cervical lymph node metastasis is the most important prognostic indicator,

with a 50% reduction in 5-year survival compared to those without neck metastasis. Despite many common features, squamous cell carcinomas of the head and neck vary in their metastatic potential. Squamous cell carcinoma is the most common malignant tumor in the head and neck region [1]. Lymphatic spread is the most important mechanism in the spread of the head and neck squamous cell carcinomas [2]. The rate of

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metastases to cervical lymph nodes probably reflects the aggressiveness of the primary tumor. The presence of metastases in a lymph node is said to reduce the 5-year survival rate by about 50% [3]. Carcinoma of unknown primary site represent a heterogenous group of malignancies presenting with lymph node and only 2-3% of patients with head & neck malignancy [4,5]. Carcinoma of unknown primary is about 5-10% of all tumours. Now a-days FDG-PET and FDG-CT has introduced [4]. 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. 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. The majority of these patients will have an occult squamous cell carcinoma of the upper aerodigestive tract, although infrequently other histological types and primary sites do occur [5]. 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 [6]. 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.

MATERIALS AND METHODS

This was an observational cross sectional study which was carried out in the Dept. of ENT, Abdul Malek Ukil Medical College Hospital, Noakhali, Bangladesh from January 2017 to June-2019. Sample size 31 patients. Patient of cervical lymph node metastasis with squamous cell carcinoma in occult primary.

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.

Data Collection & Analysis

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. Complete history taking and clinical examination were done and recorded in data collection sheet. After collection all the data were checked and edited. Then data were entered into computer with the help of software SPSS 20 version.

RESULTS

Thirty One 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 3.5:1 which is consistent with other relevant studies. Male were 78% and female 22% (Table-1, Fig-1).

Table-1: Distribution of Age group (n=31)

Age group (Years)	Number of cases	Percentage (%)
20-30	Nil	0
31-40	1	3.22
41-50	6	19.35
51-60	16	51.61
61-70	6	19.35
71-80	2	6.46

Most of patient belonged to age 51-60 years.

The male to female ratio was 3.5:1

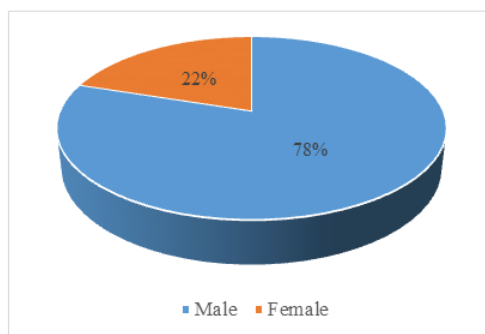


Fig 1: Sex distribution

Table-2: Distribution and status of involved lymph node

Distribution of nodes	Number of cases	Percentage
Unilateral	28	90.32
Bilateral	03	09.68
No. of node involvement		
Single	17	54.83
Multiple	14	45.17
Consistency		
Hard	16	51.61
Firm to Hard	10	32.25
Firm	05	16.12
Mobility		
Mobile	19	61.29
Fixed	12	38.71
Mobility		
<3 cm	12	38.70
3- 6cm	15	48.38
>6 cm	4	12.90

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. In

this study nodes were found less than 3 cm in 38.70% cases, 3-6cm in 48.38% cases and more than 6 cm in 12.90% cases (Table-2).

Table-3: Level of involved lymph node in unknown primary cases (n=31)

Level of nodes	Number of cases	Percentage
Level- I	02	06.45
Level- II	13	41.93
Level- II+III	03	09.67
Level- III	05	16.12
Level- III+IV	02	06.45
Level- IV	02	06.45
Level- IV+V	01	03.25
Level- V	03	09.67

Highest involvement in Level-II and Level-III

In this study the most commonly involved lymph node region was level-II (50%) followed by level-III (36.66%) (Table-3).

Table-4: Staging of Lymph node in unknown Primary (n=31)

Stage	Number of cases	Percentage
Stage - N ₁	12	38.70
Stage - N ₂	15	48.38
Stage - N ₃	04	12.90

Highest presentation in N2 stage.

In this study 40% cases were in stage N₁, 43.66% in stage N₂ and 13.33% in stage N₃ (Table-4).

DISCUSSION

Lymphatic spread is the most important mechanism in the spread of head and neck squamous cell carcinomas. The rate of metastases probably reflects the aggressiveness of the primary tumor, and is an important prognostic factor [3]. 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. Thirty One patients with metastatic neck node in whom

the primary tumour was not found despite of extensive diagnostic procedure were studied in this series. Thirty One patients with metastatic neck node in whom the primary tumour was not found despite of extensive diagnostic procedure were studied in this series. Patients distribution Male were 78% and female 22% which is consistent with other relevant studies [7, 8]. Age of majority of patients (90%) were in fifth to seventh decade that are similar to different studies carried out in India [9]. Unilateral neck node metastasis was found in 90.32% cases and bilateral in 09.68% cases. There is high incidence of unilateral metastatic neck node [10, 11]. G.B Snow et al found 88%

ipsilateral and 12% bilateral metastatic neck node which is consistent with this study [12]. Involved lymph node was found single in 54.83% and multiple in 45.17% cases in our study. Single and multiple lymph node enlargement were found in 61.3% and 38.7% respectively in one study [12]. 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 51.61%, firm to hard in 32.25% and firm in 16.12% 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 [12]. In this study nodes were found less than 3 cm in 38.70% cases, 3-6 cm in 48.38% cases and more than 6 cm in 12.90% cases. G.B Snow et al showed <3cm in 85% cases and >3cm in 15% cases only [12]. This indicates more late presentation of patients in our country which corresponds with ignorance, illiteracy and poor socio-economic status of our people. In 61.29% cases lymph nodes were found mobile and 38.71% cases were found fixed. Mobility of nodes varied 57% to 60% and fixed 40% to 43% in studies carried out in Bangladesh [10, 11]. While levelling of the lymph node was concerned, in this study the most commonly involved lymph node region was level-II (41.93%) followed by level-III (16.12%). 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, 13]. In this study 38.70% cases were in stage N₁, 48.38% in stage N₂ and 12.90% in stage N₃. The higher incidence of N₂ stage of lymph node in our series is well reported by other Bangladeshi series [5, 13].

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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