

Metastatic neck node- a clinical study of 60 cases

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Abstract:

Metastatic neck node is not uncommon in the otolaryngology department of a tertiary level hospital. Ignorance, illiteracy, delay in seeking medical advice and poor orientation of our general practitioners regarding management causes these patients to suffer from marked morbidity and mortality. It is a prospective study with random selection of sixty (60) cases of metastatic neck node admitted in the otolaryngology department of BSMMU and Dhaka Medical College Hospital during a period extending from September, 2002 to August, 2003. Here 53(88.33%) cases of metastatic neck nodes having a known primary in the head neck region and in other seven (11.67%) cases primary site of malignancy could not be detected. The commonest site of known primary was supraglottic larynx. Highest number 19(31.67%) of presentation was seen in 5th decade. Male incidence 47(78.33%) was more compared to female 13(21.67%).

Keywords: Neck gland, Metastatic neck node, Unknown primary.

Introduction

A common denominator to all malignancy is their ability to metastasize. Why and how this phenomenon occurs has been the subject of much research and investigation. We do know however that metastasis is not a random event.¹ Some tumour have the propensity for extensive local invasion without metastasis, whereas others metastasize early on their development.² Cervical region is very rich in lymphatic supply; containing about 300 lymph nodes which may get involved in the clinical course of head and neck malignant disease.³

The mere presence of carcinoma in a cervical node is said to reduce for a given lesion the number of patients who will survive for 5 years by approximately 50%. The number of survival has been noted to reduce further when multiple nodes are involved or extranodal spread of the disease occurs.⁴ With further progression the incidence of distant metastasis, which has always been viewed as being uncommon also increases dramatically making the disease incurable.⁵ So, early treatment of the primary tumour and metastatic lymph nodes is essential for good locoregional control, reduction of incidence of distant metastasis and improved survival. Historically in 50-67% cases of

metastatic neck node primary site can be identified by taking comprehensive history and initial physical examination. However, further evaluation by imaging, endoscopy and biopsy may be required for confirmative diagnosis and effective management.^{6,7,8} This study is expected to show different types of head and neck cancers metastasizing to cervical lymph nodes, the age and sex distribution and clinical presentation of metastatic neck node. FNAC and biopsy of the neck node was taken as primary selection criteria. Data collected from this study have been tabulated, analyzed and compared with some published reports from both home and abroad.

Objectives

Since metastatic neck node is regarded as an important prognostic factor in head neck malignancy we should have a proper broad based study with it in our country. The objectives of this study was-

1. To evaluate different primary sites in head and neck region metastasizing to cervical lymph nodes.
2. To evaluate the age and sex distribution.
3. To find out the usual mode of presentation of metastatic neck disease.

Methods

It was a prospective study carried out in the in-patient department of ENT and Head-Neck Surgery of Bangabandhu Sheikh Mujib Medical University and Dhaka Medical College Hospital from September, 2002 to August, 2003. Altogether 60 randomly selected cases of metastatic neck node consisting of different

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age and sex group had been studied. FNAC biopsy was done as the primary selection criteria. Metastatic neck node irrespective of its primary origin known or unknown, were included in the study.

After taking a comprehensive history every patient was subjected to a thorough physical examination with particular emphasis to head neck region. Neck was examined very carefully for the side, size, number and level of lymph node involvement, their consistency and mobility. All cases were advised for FNAC of enlarged neck node. The cases revealed metastatic deposit in the cytology test were included into the series.

Besides FNAC, radiological and endoscopic examinations were carried out as and when necessary. Tissue was sent from the suspected sites of primary for histopathological examination in every case. Those with negative histopathological report and having no clinical symptoms and signs suggestive of primary pathology in head neck region or no evidence of any primary lesion even after intensive investigations of chest and abdomen were taken as occult primary.

Result

Altogether 60 cases of metastatic neck node had been studied in the present series.

The results are shown in following tables.

Table- I
Incidence of known primary and unknown primary (n = 60)

Type of primary tumour	Number of patients	Percentage (%)
Known primary	53	88.33
Unknown primary	07	11.67

Table – II
Histological diagnosis of Known primary tumour (n = 53)

Type	Number of cases	Percentage (%)
Squamous origin	43	81.13
Non squamous origin	10	18.87

Table III
Distribution of known primary sites (n = 53)

Primary sites	No of cases	Percentage (%)
Larynx	22	36.66
Pyiform fossa	09	15.00
Nasopharynx	04	06.67
Base of the tongue	03	05.00
Buccal mucosa	02	03.33
Oral tongue	01	01.67
Nose	01	01.67
Tonsil	01	01.67
Thyroid gland	08	13.33
Parotid gland	02	03.33

Table IV
Age incidence of metastatic neck node (N=60)

Age group (years)	No of cases	Percentage (%)
20- 30	05	08.33
31- 40	08	13.33
41- 50	04	06.67
51- 60	03	05.00
61- 70	02	03.33
71- 80	01	01.67
81- 90	01	01.67
91- 100	01	01.67

Table V
Sex incidence of metastatic neck node (N=60)

Name of the sex	No of cases	Percentage (%)
Male	47	78.33
Female	13	21.67

Table- VI*Distribution and status of involved lymph nodes (n=60)*

		No. of cases with Percentage (%)
Distribution of nodes	Unilateral	49 (81.67)
	Bilateral	10 (16.67)
	Contralateral	01 (01.66)
No. of node involvement	Single	22 (36.67)
	Multiple	38 (63.33)
Consistency	Hard	32 (53.33)
	Firm to hard	24 (40.00)
	Firm	03 (05.00)
	Soft	01 (01.67)
Mobility	Mobile	36 (60.00)
	Fixed	24 (40.00)
Size of lymph nodes	< 3 cm	16 (26.67)
	3-6 cm	20 (33.33)
	> 6 cm	24 (40.00)

Table VII*Level of lymph nodes (N=60)*

Level of lymph nodes	No of cases	Percentage (%)
Level - I	03	05.00
Level - II	24	40.00
Level - I+II	03	05.00
Level - III	02	03.33
Level - II+III	18	30.00
Level - II+III+IV	05	08.33
Level - IV	01	01.66
Level - II+IV	01	01.67
Level - II+III+IV+V	02	03.33
Level - IV+V	01	01.67

Highest lymph node level involved is level II & III.

Discussion :

Metastatic neck node is not a very rare clinical entity in otolaryngological practice in a tertiary level hospital. However it is difficult to give an exact data of its incidence in our country. Most of the studies were carried out with cervical lymphadenopathy where metastatic neck node was described as one of the cause of enlargement of cervical lymph node in adults.

More than half of the total body nodes are distributed in the neck draining the head neck region studded with dense capillary network of lymphatics. So the rate at which malignancy spreads from this region to the neck is very high.

FNAC of neck swelling showing metastatic deposit of squamous or non-squamous origin was taken as primary selection criteria. Leveling of lymph node group was done in accordance with Memorial Sloan Kettering Hospital (1981). Staging of lymph node group was done after AJC and UICC (1987).

Altogether 60 cases of metastatic neck node had been studied in the present series. A primary lesion could be identified in 53(88.53%) cases while it remains undetected in 7(11.7%) cases. Two studies carried out abroad showed rate of incidence similar to our study. One study in Liverpool, England demonstrated known primary in 89.3% and unknown primary in 10.3% cases and another study in USA showed known sites of origin of metastatic neck node in 90% cases and unknown primary in 10% cases.^{9,10}

Among the primary sites 43(81.13%) cases were seen to arise from squamous lining of upper aero-digestive tract and 10(18.87%) cases were having a non-squamous origin arising from thyroid gland 8(15.09%) and parotid gland 2(3.78%). The study reveals that metastasis from thyroid gland malignancy is not a very uncommon entity.

Among the known primary sites highest incidence of metastasis was seen from supraglottic larynx 22(36.66%) with involvement of medial wall of the pyriform fossa or extension into it in 40% cases. Metastasis from pyriform fossa was seen in 09(15%) cases, from nasopharynx in 04(6.67%) cases, from base of the tongue in 03(5%) cases, from buccal mucosa in 02(3.33%) cases, from oral tongue in 01(1.67%) case, from tonsil in 01(1.67%) case and from nose in 01(1.67%) case. The studies about primary sites of metastatic neck node at home and abroad however demonstrate a diverse picture. In a study with metastatic

neck node in the department of otolaryngology, Mount Sinai Hospital and Sunnybrook Medical Centre, Toronto; 40% cases of primary tumour was seen in tongue, 20% cases in larynx, 20% cases in the floor of the mouth, 7% cases in tonsil, 3% cases in the palate and 10% cases in other miscellaneous sites. The reason it did not match to other studies alike as been mentioned by them is absence of selectivity for primary sites.¹¹ Another study in Khartoum Teaching Hospital, Sudan commonest primary site of malignancy was nasopharynx.¹² It might be due to their social habit and /or genetic predisposition.

Enlargement of lymph nodes in neck was the principal complaint in all 60(100%) cases. Besides it 26(43.33%) patients presented with dysphagia, 23(38.33%) cases presented with hoarseness of voice, 8(13.33%) patients with respiratory distress, 5(8.33%) patients with stridor, 5(8.33%) patients with referred otalgia, 5(8.33%) patients with pain in throat, 4(6.67%) patients with nasal obstruction, 3(5%) patients with epistaxis, 3(5%) patients with severe headache, 3(5%) patients with dysarthria, 1(1.67%) patient with trismus, 1(1.67%) patient with discharging fistula in neck, 7(11.7%) patients with cranial nerve palsy and 7(11.67%) patients with anorexia and weight loss. 8(13.33%) cases presented with thyroid swelling and 2(3.33%) cases with parotid gland swelling.

The disease was unilateral in 49(81.67%) cases, bilateral in 10(16.67%) cases and contra-lateral in 1(1.66%) case. A work on metastatic neck disease done by G.B. Snow and his team in Netherland Cancer Institute, Amsterdam; ipsilateral enlargement of lymph nodes was demonstrated in 87%, bilateral in 8.6%, and contralateral in 3.6% cases.¹³

Lymph node involved was single in 22(36.66%) patients and multiple in 38(63.33%) cases. G.B. Snow and his team of Netherland Cancer Institute, Amsterdam; got 61.3% cases of single node enlargement and 38.7% cases of multiple lymph nodes enlargement in their series representing their early presentation.

In this study nodes were found less than 3 cm in size in 16(26.67%) cases, 3 to 6 cm in 20(33.33%) cases and more than 6 cm in 24(40%) cases. But study carried out by G.B. Snow and his team showed enlarged lymph node less than 3 cm in size in 85% and more than 3 cm in only 15% cases.¹³ This indicates late presentations of the patients of our country which reflects their educational and socioeconomic status fairly well.

Lymph nodes were hard in consistency in 32(53.33%) cases, firm to hard 24(40%) cases, firm 03(5%) cases and soft in 1(1.67%) case.

In 36(60%) cases lymph nodes were found mobile and 24(40%) cases they were fixed. In the studies abroad fixity of nodes varied from 16.4% to 29.6% representing their early presentation once again.^{9,13}

While leveling of the lymph nodes was concerned most commonly involved lymph node region was found to be level II (40%) followed by level II + III (30%). This is found in agreement with most of the other studies carried out at home and abroad.^{11,14}

20(33.33%) cases fell in stage N1 , 8(13.34%) in stage N2A , 11(18.33%) in stage N2B, 5(8.4%) in N2C and 16(26.66%) patients in stage N3 .The results of this part of the study could not be compared due to lack of studies following the staging of lymph node group after AJC and UICC.

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