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Non Hodgkins Lymphoma of Head and Neck: A Clinicopathological Review of 15 Cases in a Tertiary Care Centre

Shubhi Tyagi, M. D Prakash

Abstract: ***4- 15% non hodgkins lymphoma patients constitute head and neck extra nodal Non Hodkins Lymphoma.. This was a retrospective study performed to characterise the various sites, clinical manifestations and histopathological features present in non hodgkins lymphoma of head and neck.Out of 15 cases studies 11 were males and 4 females. the mean age was 51.9 years. Most common site of presentation was the waldeyer ring with most common clinical manifestation as a neck mass.most common histopathological subtype was DLBCL.***

Keywords: non hodgkins lymphoma, head and neck oncology, waldeyers ring, DLBCL

1. Introduction

Lymphoma refers to group of malignancies targeting the lymphoreticular system. While they may start initially in the lymphatic tissue, they progress as mass in single or multiple lymph nodes (Hodgkins Lymphoma) and spread to bone marrow, or they may spread to extranodular mass (Non Hodgkins Lymphoma). 4- 15% non hodgkins lymphoma patients constitute head and neck extra nodal Non Hodkins Lymphoma.[1] A local mass or pain is the most common initial complaint of the majority of patients with extra nodal lymphoma.[2] Although tonsil is the most common primary extra nodal site of head and neck NHL, it accounts for less than 1%.[3] The varied and nonspecific clinical presentation of these malignancies lead to a delay in diagnosis thus poor outcome.

In particular, with regard to lymphomas having an aggressive course, immediate histological evidence is crucial for patient management, early treatment initiation and often for the outcome.[4,5]

This study was performed to evaluate head and neck manifestations of lymphomas and to emphasize on varied presentations of Non Hodkins Lymphoma.

Aims and Objectives

1) To classify lymphomas based on sites, age group, gender and nature of lesion
2) To evaluate lesions based on clinical, sonological and cytological findings

2. Materials and Methods

The present study was carried out in the Department of ENT, Bangalore Medical College and Research Institute, Bangalore between June 2017 to August 2019

Sample size: 15 patients

Study design: Retrospective cohort study

Inclusion criteria:

1) Histopathologicaly confirmed cases of Non Hodgkins Lymphoma

Exclusion criteria:

1) Cases in which site of origin was difficult to determine

Statistical Analysis

Data was collected and tabulated in Excel sheets. The results were published as percentage.

Method of Data Collection

The data of 15 patients of histologicaly confirmed Non Hodgkins Lymphoma admitted in Department of ENT, Bangalore Medical College and Research Institute between may 2016 to December 2019 was reviewed. Details including age, sex of the patient, clinical history, radiological findings and histopathological diagnosis of each patient was recorded accordingly

Histological specimen were evaluated according to WHO classification and the Ann Arbor Classification System of lymphomas

3. Results

We analysed data of 15 patients with extranodal Non Hodgkins Lymphoma of head and neck. There were 4 female patients and 11 male patients. The patients' age ranged from 28 to 80 years, and the mean age was 51.9 years.

The most frequent sites encountered were the Waldeyer ring (6 patients), paranasal sinus (3 patients). Other sites where occurrence was common were salivary glands both major and minor (3 patients), orbit (1 patient), thyroid (1 patient) and bone of jaw (1 patient). The histological subtypes noted in our study were as follows: DLBCL, 10; MALT, 4; CLL, 1.

8 cases of DLBCL were stage 1E (paranasal sinus, waldeyer ring and thyroid) and one case was stage 2E (mucosa of the mandible). All cases of MALT lymphoma in our study were stage 1E

All the patients' data including gender, age, site of lesion, histopathological subtype according to WHO classification and staging according to Ann Arbor classification is shown in Table 1

The most common clinical presentation in our study was found to be neck mass and throat pain, followed by cheek mass, nasal obstruction and epistaxis. The clinical presentations of all 15 patients are shown in Table 3.

Patients with extranodal lymphomas located in Waldeyer ring/ paranasal sinus were usually classified as DLBCL and and those in salivary glands and orbit were classified as MALT

On the basis of correlation of diagnosis with stage we found that all MALT lymphomas were stage 1. DLBCL subtype in our study were mostly stage 1E

The immune-histochemical findings of the extranodal NHLs are presented in Table 2. The immune-phenotyping is helpful in diagnosis of MALT lymphomas. They are positive for B-cell associated antigens such as CD19, CD20 AND CD22 and usually negative for CD5

Table 1: Comprehensive list of patients' data

Patient no	Age	Gender	Location	Histological type	Stage
1	47	M	Paranasal sinus	DLBCL	1E
2	52	M	Paranasal sinus	DLBCL	1E
3	38	M	Paranasal sinus	DLBCL	1E
4	57	M	Waldeyer ring	DLBCL	1E
5	66	M	Waldeyer ring	DLBCL	1E
6	71	M	Waldeyer ring	CLL	1E
7	28	F	Waldeyer ring	DLBCL	1E
8	65	M	Waldeyer ring	DLBCL	1E
9	54	M	Waldeyer ring	DLBCL	1E
10	46	F	Major salivary gland	MALT	1E
11	51	M	Major salivary gland	MALT	1E
12	34	F	Minor salivary gland	MALT	1E
13	73	M	Orbit	MALT	1E
14	32	M	Mucosa of mandible	DLBCL	2E
15	80	F	Thyroid	DLBCL	1E

Table 2: Immunohistochemical characteristics of Extranodal NHL

Neoplasm	CD20	Bcl-2	CD5	CD10	CD23	Other Ab
CLL/SLL	+	+	+	-	+	
DLBCL	+	+	-/+	-/+	-	MUM1,Bcl-6
MALT	+	+	-	-	-	

Abbreviations: _, greater than 90% of cells positive; _/_, greater than 50% of cells positive; _/_, less than 50% of cells positive; –, less than 10% of cells positive; LBL, B-lymphoblastic lymphoma.

Table 3: Clinical Presentation

Clinical feature	No. of Patients
Neck mass	5
Throat buldge	2
Cheek mass	4
Proptosis	2
Dysphagia	4
Nasal obstruction	4
Epistaxis	4
Hypernasal speech	2
Mandibular mass	1
Throat pain	5

4. Discussion

The second most common primary malignancy in head and neck are the lymphomas. The incidence of lymphomas have increased over the last few years, due mainly to the increase in AIDS- related lymphoma (ARL). The majority of NHLs in the head and neck are of B-cell origin.[6]

This study analyses epidemiological characteristics, clinical presentation, histopathology and various sub sites in head and neck of non hodgkins lymphoma

Siegel et al began reported that the mean age of patients with NHL was 66 years at diagnosis and 38 years in patients diagnosed with HL.[7] In our study we found the mean age of patients to be 51.9 years

It has been found in some studies that NHL is more common in females.[8] In our study we found males were more commonly involved (11/14) than females (4/14)

The diagnosis of lymphomas is made on the basis of clinical and histo-pathological features with radiological scans being of limited help in distinguishing these lesions. In many cases, the clinical features of intraoral NHLs may be similar to those of squamous cell carcinoma, and the diagnosis can be established only by biopsy.[9,10.] In our study most common presentation was a neck mass in 33.33% of cases and throat pain in 33.33% of cases. Lymphoma should be considered as a differential diagnosis in those presenting with a neck mass. Other common symptoms included a cheek mass and nasal obstruction with or without epistaxis.

The oral lesions show rapid growth even involving the underlying bone. Radiographically, intrabony lesions appear as radiolucent areas, whether unilocular or multilocular, with diffuse borders.[11,12]

In primary lesions of the orbit, the features resemble those of orbital cellulitis presenting with proptosis and vision detoriation.
As mentioned in the literature, about 40% of DLBCLs are initially confined to extranodal sites.[8] The most common extranodal site is the gastrointestinal tract. Other common sites of extranodal presentation include the oral cavity, bone, salivary glands, Waldeyer ring, and paranasal sinus.[9,10,11]

Solomides et al reported 68% of 71 cases as DLBCLs of the oral cavity.[13]

The most common subsite in our study was waldeyer ring (40%) followed by paranasal sinus (20%). Other subsites found in our study were major and minor salivary glands, orbit, thyroid and mucosa of mandible

The clinical stage of malignant lymphomas is defined according to the Ann Arbor classification.[14] Shankland et al. described that DLBCL is the most common sub-type, followed by FL and MALT lymphoma in western countries consistent with other studies.[15]

DLBCL was the most common subtype in our study in 66.66% of cases followed by MALT lymphoma in 26.66% of cases. Only one CLL subtype was present.

7-8% of B cell lymphomas are MALT . Extranodal MALT lymphoma is the most common lymphoma that involves the ocular adnexal structures, representing 60% to 70% of all lymphomas with a good prognosis (60%-70% 10-year survival rates).[16,17,18]

The gastrointestinal tract is the most common site of MALT lymphoma, comprising 58% of all cases.[19,20] Other common sites are the salivary glands (14%), head and neck (14%), and ocular adnexa (12%).[21,22] In our study we found MALT subtype was found in salivary glands. When compared to DLBCL subtype they have a slower spread and smoother course.

In our study all patients 93.33% (14/15) patients presented in stage 1 and 6.6% (1/15) presented in stage 2 of the disease consistent with other diseases [13,23]

5. Conclusion

Non hodgkins lymphoma incidence is on the rise and should be considered as a differential in patients presenting with mass in head and neck. Early diagnosis of the this disease which presents with varied non specific symptoms can prompt early treatment and improve survival rates considerably

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