



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact Factor: 6.078

(Volume 8, Issue 4 - V8I4-1213)

Available online at: <https://www.ijariit.com>

Oral Findings in newly Diagnosed Hodgkin's and Non-Hodgkin's Lymphoma

Ammar Jalil Sebah

sebahiammar708@gmail.com

Iraqi Ministry of Health, Baghdad, Iraq

Fawaz Al-Asawad

fawazaswad2006@gmail.com

College of Dentistry, University of Baghdad, Baghdad, Iraq

ABSTRACT

Oral manifestations of systemic disease and malignancies have been described and frequently found at oral level, due to the diseases or side effect of their treatments, oral physicians, as well as dental practitioners, have a central role in the early diagnosis for good prognosis and long term monitoring of these patients early diagnosed lymphoma is rarely associated with Oral manifestation. To determine the oral findings of newly diagnosed lymphoma patients. This study involved newly diagnosed 25 patients with Hodgkin lymphoma (HL), 25 with Non Hodgkin lymphoma (NHL) according to histopathologic and immunophenotyping reports, the patients were examined before treatment starting. Pale Mucosa, Gingival Inflammation, Erosive Glossitis, Recurrent Aphthous Stomatitis (RAS) presented with no significant relationship to NHL, HL group, except Angular Cheilitis (AC) presented with significant relation to NHL at $p < 0.05$. there were no oral manifestations with newly diagnosed Hodgkin's lymphoma patients before treatment starting, while Angular Cheilitis presented with significant relation to newly diagnosed patients with Non Hodgkin's lymphoma, Oral physician and dental practitioners should increase the awareness toward underlying disorders to any oral lesion that may be the first sign of underlying disease, due to their crucial role in prognostication and further treatment planning and to provide the appropriate patient care.

Keywords: Oral Findings, Angular Cheilitis, Hodgkin's, Non Hodgkin's Lymphoma

1. INTRODUCTION

Lymphoma is a cancer of the lymphatic system, that affect lymphocytes (B and T cell) and natural killer cell (NK) which are a type of white blood cell, they have important role in fighting disease in the human body as an essential role in the body's immune mechanism, it can spill over into blood (leukemic phase), and can infiltrate to different tissues and organs throughout the body, the main subtypes are HL and NHL based on presence of Reed- Sternberg cells (RS) in HL¹.

Studies showed that oral manifestation of lymphoma are rare², other showed that there were no oral manifestation for lymphoma before starting treatment^{3,4}, with few studies mentioned that opportunistic infection and multiple small ulcers are an oral manifestation associated with lymphoma^{5,6}, except many studies and researches that dealt with extranodal lymphoma as primary oral lesions (oral lymphoma) or involve the head and neck area by the primary lesion, that usually involve the Waldeyer's ring (nasopharynx, base of the tongue, faucial tonsils, oropharynx, and adenoids), base of the tongue, buccal mucosa, and palate, and presents as a painless, slow-growing swelling which may or may not be ulcerate^{7,8,9}.

These Oral complications require a precise diagnosis and measures to oral health care, oral physicians, as well as dental practitioners, have a central role in the early diagnosis for good prognosis and long term monitoring of these patients, having the opportunity and the duty to examine and make a diagnosis at the level of hard and soft tissue of the oral cavity⁷.

2. METHODS

This a cross sectional study and carried out over a period of 6 months from 20- October 2021 to 29-April 2022, and conducted at Hematology Center in Baghdad Teaching Hospital / Baghdad Medical City with a 250-bed capacity and AlKaadimeya Medical City with a 50-bed capacity and Radiology Department / Al Yarmook Teaching Hospital all of centers in the capital Baghdad in Iraq.

The study population included 25 patients (11 male and 14 female) with HL and 25 patients (15 male and 10 female) with NHL, both diagnosed according to histopathology and immunephenotyping, those patients were examined pre chemo and radiotherapy, Age, sex match with patients groups from 15- >60 years old.

Instruments used for patients oral examination :

- Disposable kit for diagnosis (mirror, probe, tweezer).
- Piece of gauze.
- Plastic spatula.
- Examination gloves

Oral examination procedure :

All the patients examined by a single examiner, under standardized conditions; the oral cavity examined in an artificial light by using a mouth mirror.

The procedure of examination of oral soft tissue was done in sequence according to directions suggested by **W.H.O (1987)** , case sheet contained the information (appendix 1), and we illustrate Recurrent Aphthus Stomatitis (RAS) and Angular Cheleitis (AC) under Any oral mucosal lesion category.

The examination begin with lip , upper and lower sulcus area, upper and lower labial mucosa, then the hard and soft palate, palatopharyngeal arch , palatoglossal arch and palatine tonsil , dorsal margins especially posterior margins and ventral surface of the tongue, floor of the mouth was also examined.

3. STATISTICAL ANALYSIS

The comparison of qualitative variables was made through the Contingency Coefficients (C.C.) test for the cause's correlation ship of the contingency tables, Binominal test, One sample Chi-Square test. Fisher's Exact test: Crosstabs' statistics and measures of association are computed for two-way tables only. The One-Way ANOVA procedure produces a one-way analysis of variance for a quantitative dependent variable by a single factor (independent) variable. With statistical package (SPSS) ver. (22.0).

Table (1) of Distribution of Demographical Characteristics variables (DCVs), with respect of **gender** studied groups has (NS) different at P>0.05. **age** group's distribution of the studied groups has a (HS) different at P<0.01, and accordance with this result, early ages of patients were recorded in HL group, means and deviations of the studied groups (Control, NHL, and HL) were recorded (37.69 ± 12.67), (47.92 ± 14.91), and (28.84 ± 11.05) years respectively.

Table (1): Distribution of DCVs for the studied NHL, HL and control group with testing significant.

DCV.	Diagnosi s	Control		NHL		HL		C.S. (*) P-value
	Classes	No.	%	N o.	%	No.	%	
Gender	Male	13	52	15	60	11	44	CC= 0.196 P=0.157 (NS)
	Female	12	48	10	40	14	56	
	Total	25	100	25	100	25	100	
Age Groups Yrs.	< 20	1	4	1	4	7	28	CC= 0.522 P=0.002 HS
	20 _	7	28	2	8	9	36	
	30 _	6	24	4	16	3	12	
	40 _	5	20	6	24	5	20	
	50 _	4	16	7	28	1	4	
	60 _ 70	2	8	5	20	0.00	0.00	
Mean ± SD		37.69 ± 12.67		47.92 ± 14.91		28.84 ± 11.05		

HS: Highly Sig. at P<0.01; S: Sig. at P<0.05; NS: Non Sig. at P>0.05; Testing are based on a Contingency Coefficient test.

Table (2) shows distribution of "Oral Findings" among each one of the studied "NHL, and HL" groups, as well as testing significant, to be sure that these two variables regarding of studied groups has randomly distributed among their different classes or not, in addition to estimation an odds ratio (OR) with 95% confidence interval.

Table (2): Distribution of Oral Findings for the studied subjects in NHL, and HL with testing significant

Oral properties		HL		NHL		C.S. (*) P-value Odds Ratio 95% C.I.
		No.	%	No.	%	
Pale Mucosa	Yes	4	16	6	24	CC= 0.100 P=0.480 (NS) OR=0.603 (0.147: 2.468)
	No	21	84	19	76	
Gingival Inflammation	Yes	2	8	5	20	CC= 0.170 P=0.221 (NS) OR=0.348 (0.061: 1.993)
	No	23	92	20	80	
Erosive Glossitis	Yes	6	24	6	24	CC= 0.000 P=1.000 (NS) OR=1.000 (0.273: 3.662)
	No	19	76	19	76	
Recurrent Aphthous stomatitis (RAS)	Yes	6	24	5	20	CC= 0.048 P=0.733 (NS) OR=1.263 (0.330: 4.837)
	No	19	76	20	80	
Angular Chelitis (AC)	Yes	1	4	7	28	CC= 0.311 P=0.021 (S) OR=0.107 (0.012: 0.950)
	No	24	96	18	72	

(*) HS: Highly Sig. at P<0.01; S: Sig. at P<0.05; NS: Non Sig. at P>0.05; Testing are based on a Contingency Coefficient test, and Binomial test.

For "Pale Mucosa", results shows that most of studied cases of "NHL, and HL" groups are observed absent outcomes, with weak relationship at P>0.05, as well as decreasing of present cases with (0.603) times in "HL" group in light of "NHL" group., figure (1)

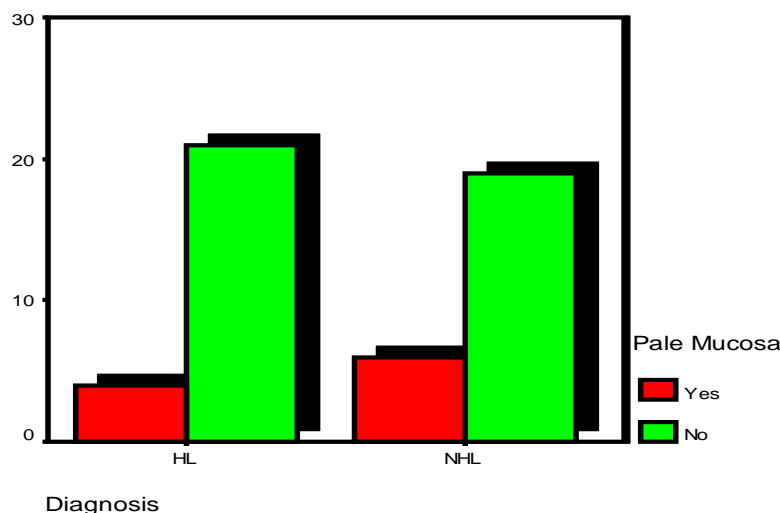


Fig (1) : Bar Chart of Pale Mucosa finding distribution among studies NHL, HL groups

For "Gingival Inflammation", results shows that most of studied cases of "NHL, and HL" groups are observed absent outcomes, with weak relationship at P>0.05, as well as decreasing of present cases with (0.348) times in "HL" group in light of "NHL" group. figure (2).

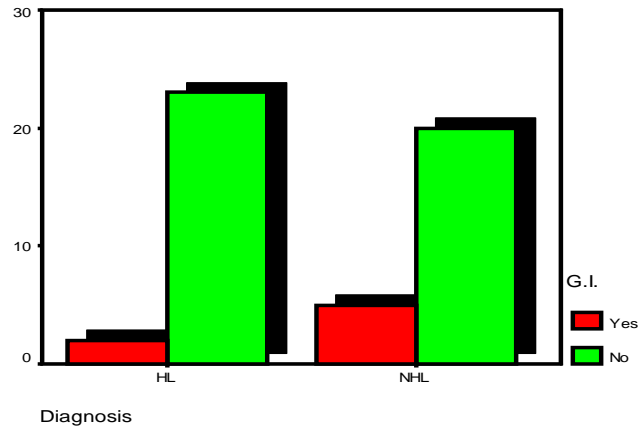


Fig (2) : Bar Chart of Gingival Inflammation finding distribution among studies NHL, HL groups

For "Erosive Glossitis", results shows that most of studied cases of "NHL, and HL" groups are observed absent outcomes, with weak relationship at $P > 0.05$, as well as equivalent of present cases with (1.000) times in "HL" group and "NHL" group. figure (3).

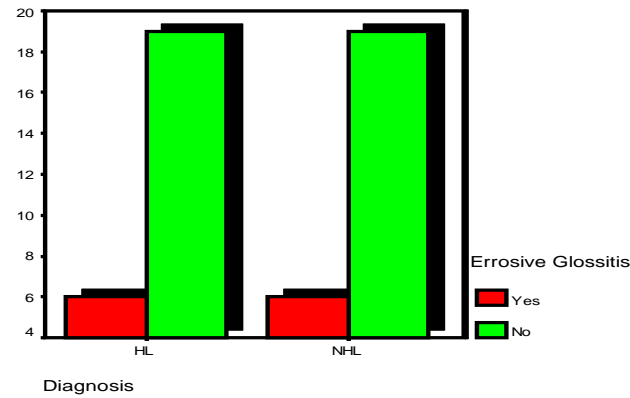


fig (3) : Bar Chart of Erosive Glossitis finding distribution among studies NHL, HL groups

For "RAS", results shows that most of studied cases of "NHL, and HL" groups are observed absent outcomes, with weak relationship at $P > 0.05$, as well as increasing of present cases with (1.263) times in "HL" group in light of "NHL" group. figure (4).

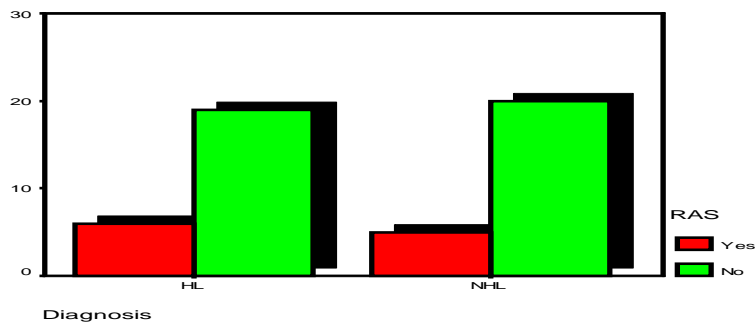


fig (4) : Bar Chart of RAS findings distribution among studied NHL, HL groups

Finally regarding "Angular Chelitis", results shows that most of studied cases of "HL" group are observed absent cases, while 7(28%) of studied "NHL" are observed present cases with strong relationship at $P < 0.05$, as well as decreasing of present cases with OR (0.107) times in "HL" group in light of "NHL" group. figure (5)

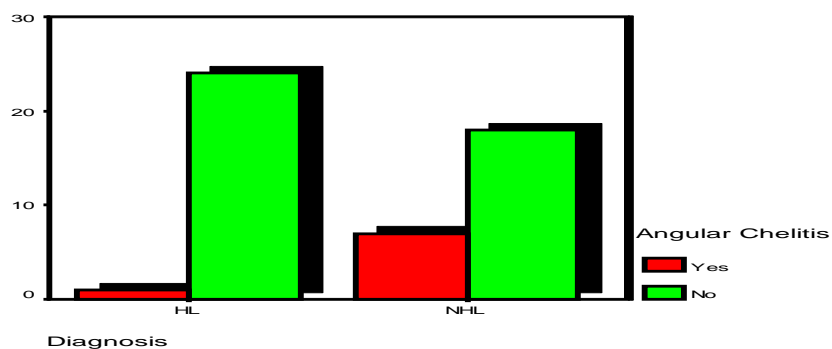


fig (5) : bar chart of angular chelitis findings distribution among studied NHL, HL groups

4. DISCUSSION

Pale Oral Mucosa, Gingival Inflammation, Errosive Glossitis, RAS, results showed no significant relation with occurrence of lymphoma, and this agree with ^{3,4}, as they mentioned that there were no oral manifestation for lymphoma before starting treatment, except with AC the results showed significant relation with NHL group and this agree with ^{5,6}, as they mentioned that few studies mentioned that apportunistic infection and multiple small ulcers are an oral manifestation associated with lymphoma.

Angular Cheleitis also called (stomatitis) Aphthous-like ulcers at the corner of the lips, clinically, it is a frequent condition characterized by erythema, ulcerations, and crusting of the lip corners and the adjacent skin, either in one commissure or both *Pilati et al* ¹⁰.

The etiology of AC is multifactorial, with many local and/or systemic causes responsible for AC occurrence *Cabras et al* ¹¹: aging, ill-fitting dentures, lose of teeth and vertical dimension of normal occlusion that result in insufficient or inappropriate support of the lip corners, nutritional deficiencies, Fungal infection (apportunistic infection) is the most common cause of angular cheilitis, dryness of the skin in the commissures, result in disruption the epidermal barrier, such disruption provides a good environment for fungi and bacteria.

Siar et al ¹² mentioned in their case report that 20 years old with presented lesions affecting the vermilion borders presented as an admixture of superficial erosions, ulcers and white plaques, when attended to Oral Medicine Clinic of the Faculty of Dentistry, University of Malaya, Kuala Lumpur for the management of multiple white lesions affecting the dorsum and lateral borders of her tongue, as well as ulcerations of her lips.. Clinical findings were confirmed with oral smears and swabs that demonstrated the presence of hyphae, pseudohyphae and blastospores, and colonies identified as *Candida albicans*, the patient diagnosed later with lympho proleferative NHL with Hematological investigations disclosed abnormal blood film consistent with acute hemolytic anemia. This was associated with low serum iron, folate and B 12, abnormal white blood cells and an increased platelet count.

As a result NHL mostly occur in old ages, beside symptoms of anemia and mal absorption and weak immunity can be the cause to develop AC

5. CONCLUSION

There were no oral manifestations with newly diagnosed Hodgkin' lymphoma patients before treatment starting, while Angular Cheleitis presented with significant relation to newly diagnosed patients with Non hodgkin's lymphoma, Oral physician and dental practitioners should increase the awareness toward underlying disorders to any oral lesion that may be the first sign of underlying disease, due to their crucial role in prognostication and further treatment planning and to provide the appropriate patient care

6. REFERENCES

- [1] Medical news today. What to know about lymphoma; 2022
<https://www.medicalnewstoday.com/articles/146136>
- [2] James A, Ahmed SP, Arunachalam P, Mahalingam R, Mohan VK. Oral manifestations of white blood cell dyscrasias with emphasis on their management. *SRM J Res Dent Sci* 2021;12:222-6.
- [3] Mohammed Hasan Abdulshaheed. Assessment of Oral Manifestations and Salivary Immunological Markers in Patients with Lymphoma Before and after Receiving Chemotherapy. College of Dentistry at the University of Baghdad; 2014.
<https://codental.uobaghdad.edu.iq/wp-content/uploads/sites/14/2021/02/Assessment-of-Oral-Manifestations-and-Salivary-Immunological-Markers-in-Patients-with-Lymphoma-Before-and-after-Receiving-Chemotherapy.pdf>
- [4] Hamza Waleed Ahmed Alkuhla. Oral manifestations, Microbial study And Salivary IgA study In lymphoma patients Receiving chemotherapy. A thesis Submitted to the council of the college of Dentistry at the University of Baghdad in partial fulfillment of the requirements for the degree of Master of Science in Oral Medicine, 2011. www.codental.uobaghdad.edu.iq/wp-content/uploads/sites/14/2021/02/Oral-manifestations-Microbial-study-and-And-Salivary-IgA-study-In-lymphoma-patients-Receiving-chemotherapy.pdf
- [5] Babu, B. N., et al. "Oral presentation of non-HIV-related non-Hodgkin's lymphoma." *Journal of Dentistry Defense Section*, vol. 14, no. 1, Jan.-June 2020, p. 36.
www.com/apps/doc/A641287554/HRCA?u=anon~f83c18e3&sid=googleScholar&xid=e7762391
- [6] Ammon A, Nasser H. Evaluation of Oral Manifestations of Hodgkin's Lymphoma Patients bin University Tishreen Hospital. *Tuj-hlth* [Internet]. 19 jan(2021).
- [7] www.journal.tishreen.edu.sy/index.php/hlthscnc/article/view/10265
- [8] Castellarin P, Pozzato G, Tirelli G, Di Lenarda R, Biasotto M. Oral lesions and lymphoproliferative disorders. *J Oncol*. 2010;2010:202305.
- [9] Chih-Huang Chen 1, Yuk-Kwan Wang, Wen- chen Chen, Ching-yi KO, Edward Cheng chuan. lymphomas with oral manifestations – 18 cases in our institution and review of literature. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*, 2019,128(1), e32–e33.

- [10] Chih-Huang Tseng, Wen-Chen Wang, Ching-Yi Chen, Han-Jen Hsu, Yuk-Kwan Chen. Clinical manifestations of oral lymphomas – Retrospective study of 15 cases in a Taiwanese population and a review of 592 cases from the literature. Journal of the Formosan Medical Association, Volume 120, Issue 1, Part 2, 2021.
- [11] Pilati, S., Bianco, B. C., Vieira, D., & Modolo, F. Histopathologic features in actinic cheilitis by the comparison of grading dysplasia systems. Oral Diseases, Volume 23, Issue 2, March 2017 Pages 219-224.
www.onlinelibrary.wiley.com/doi/10.1111/odi.12597
- [12] Cabras, Marco; Gambino, Alessio; Broccoletti, Roberto; Lodi, Giovanni; Arduino, Paolo G.. Treatment of angular cheilitis: A narrative review and authors' clinical experience. Oral Diseases, Volume 26, Issue 6, September 2020, Pages 1107-1115.
<https://onlinelibrary.wiley.com/doi/10.1111/odi.13183>
- [13] Siar, Chong Huat; Ng, Kok Han; Rasool, Salik; Ram, Saravanan; Jalil, Ajura Abdul; Ng, Kee Peng (2003). Oral candidosis in Non-Hodgkin's lymphoma: a case report. Journal of Oral Science, vol 45. No. 3, 161–164, 2003.
www.jstage.jst.go.jp/article/josnusd1998/45/3/45_3_161/_pdf

appendix 1

Republic of Iraq
Ministry of Higher Education
and scientific Research
University of Baghdad
College of Dentistry



Case number

Date / /

Patient name:

age:

sex:

Address:

occupation:

phone no:

Marital status:

Physician name:

Social history:

Do you smoke tobacco?

How much?

How long?

Do you use alcohol ?

how much?

How long?

Family history:

General question :

Systemic disease yes no

Surgeries or hospitalization yes no

For women

Are you pregnant yes no

Medications :

Allergies :

Differential diagnosis :

History of present illness :

Diffinit diagnosis:

Stage of disease:

Grade of non Hodgkin lymphoma:

Intra oral examination :

1- Soft tissue

- Enlarged salivary gland yes no

- Pale mucosa yes no

- Gingival inflammation yes no

- Petechial and ecchymosis yes no

- Bleeding from gingiva yes no

- Candida infection yes no

- Erosive glossitis yes no

- Any oral mucosal lesion yes no

2- Burning mouth syndrome yes no

3- Dry mouth yes no

4- Odour of urea on breath yes no

5- Metallic test yes no

6- Increase calculus formation yes no

7- Low caries rate yes no

8- Enamel hypo plasia yes no

9- Stains on crown yes no

10-Intrinsic stain yes no

11-Tooth erosion yes no

12-Salivary flow rate yes no

Student name

supervisor name

Ammar jaleel sebahi
Aswad

Pr Dr Fawaz Al-