



Biopsy Records To the Oral Lesions in Iraq between 2010 And 2020

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Abstract

The aims of this study is to find a straight line analysis of oral biopsies reported to oral lesions in Iraq and compare with previous studies. Between (2010 and 2020), (1386) biopsies reported for oral lesions from the histopathological laboratories of general hospitals in Iraq. These biopsy findings divided into five types: malignant, benign, reactionary, salivary gland and white lesions. Through the oral biopsy a detailed report on the patients' history, information collected comprised age grouped are classified into five parts like under 15, (15-24), (25-39), (40-59) and more than 60. The structural area comprises tongue, buccal mucosa, palate, the floor of the mouth, gingiva, lower and upper lips, lip, ventral surfaces and lateral border. The whole total number of biopsy reported was (1386) biopsies, around (n=698) with percentage (50.40%) of the lesions taken from the males and (n=688) with percentage (49.60%) were for females. The mean age was (51.39) yrs and the range of was (12 to 98) yrs. The commonest site of the lesions has influenced the ventral surface (359) with percentage (26.80%) followed by tongue (352) with percentage (25.40%) and lateral border (190) with percentage (13.7%). Regular pathology revealed was malignant lesions accounted (1083) with percentage (78.13%), benign lesions making up (206) with percentage (14.90%), reactionary lesions around (46) with percentage (3.30%), salivary gland lesions about (28) with percentage (2.00%) biopsies and white lesions were (23) with percentage (1.65%). In this study, squamous cell carcinoma was the commonest recorded malignant lesions causing it to showing threat to the community, with reducing prognostic possible as the patient age increased. The biopsies record were malignant lesions and commonly among above 60 yrs patients, which implies to increase the education among those patients to enhance their oral health since they did not look for treatment in an initial dental care.

Introduction

The primary function of mouth is to work as the entrance of the alimentary tract and to initiate the digestive procedure by salivation and propulsion of the alimentary bolus into the pharynx [1]. The oral cavity is lined by an oral mucosa containing of

a stratified squamous epithelium that can or cannot be keratinized, and an underlying connective tissue layer, the lamina propria. The surface is kept moist with mucus produced by the major and numerous minor salivary glands [2]. The epithelium



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is keratinized above the lips, hard palate and above gingiva, however anywhere else, it is non-keratinized [3]. Minor salivary gland tumors are dissipated all via the oral mucosa [4].

The oral cavity and maxillofacial site commonly impacted on different pathological lesions such as; cystic, provocative, neoplastic, reactionary, keratotic and others [5]. The lesions of the oral cavity comprise the teeth, tongue, buccal mucosa, the salivary glands and gingiva [6]. Further, oral lesions in the mouth are common and highly typical, appearing chiefly on the tongue, palate, and mucosa buccal, less commonly affecting salivary gland swelling [7].

Several oral lesions may display same clinical characteristics, hence rendering the diagnosis more difficult. For example, the differential diagnosis between non-neoplastic proliferative conditions and benign mesenchymal tumors, and between leukoplakia and squamous cell carcinoma, habitually poses challenging conditions, needing prior information of demographic features related to the incidence of oral lesions to generate a clinical differential diagnosis [8].

This study presents the incidence of biopsies reported for oral lesions of general hospitals in Iraq between 2010 and 2020, and to evaluate demographic factors related to oral lesions displaying similar clinical features.

Materials and Methods

This study was showed at the histopathology department, ten teaching hospitals in Iraq between 2010 and 2020. It designs via using a retrospective descriptive. According to the study period, a total of (1386) oral biopsies were collected from different general hospitals. Records were recovered from the history patients' files and the whole data concerning the age, gender, site and histopathological diagnosis were retrieved of (1386) biopsies and were analyzed by using statistical package for social science (SPSS ver. 26). The age divided into five groups under 15, (15-24), (25-39), (40-59) and more than 60. The structural area comprises tongue, buccal mucosa, the floor of the mouth, gingiva, palate, lower and upper lips, lip, ventral surfaces and lateral border. Biopsies were positioned in five categories, as follow: malignant lesions benign, salivary gland and white lesions. The biopsy reported with whole sample and insufficient details of patients and non-indicative biopsy was excluded from the study.

Results

The complete number of biopsy reported was (1386). Around (698) with percentage (50.40%) of the lesions taken from the males and (688) with percentage (49.60%) were for females. The male to female ratio was (1.01:1) (See Figure 1).

The mean age was (51.39) yrs and the range of age was (12 to 98) yrs. The peak age was ages under 40 yrs (374) with percentage (37.40%), the fifth decade (255) with percentage (25.50%), and the sixth decade (298) with percentage (29.80%) and above the seventh decade of life (459) with percentage (45.90%) (See Figure 2).

The greater portion of the lesions influenced the ventral surface (358) with percentage (28.80%) followed by tongue (352) with percentage (25.40%), lateral border (190) with percentage (13.70%), the floor of the mouth (179) with percentage (12.90%), gingiva (102) with percentage (7.40%), lip (65) with percentage (4.70%), lower lip (45) with percentage (3.2%), and the smaller part was palate (6) (0.40%) (See Table 1).

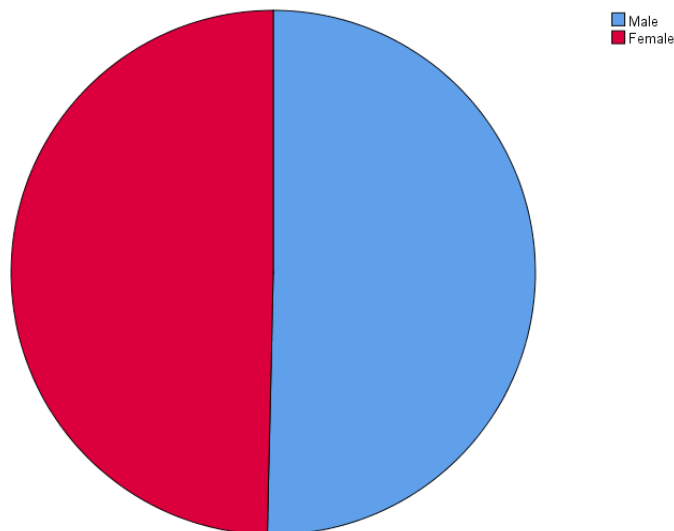


Figure 1: Gender distribution.

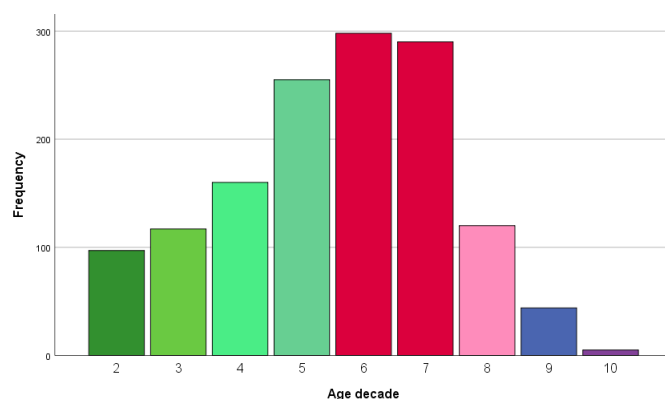


Figure 2: Age distribution.

Table 1: The frequency distribution of site of lesions.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ventral surface	358	25.8	25.8
	tongue	352	25.4	51.2
	lateral border	190	13.7	64.9
	floor of the mouth	179	12.9	77.8
	gingiva	102	7.4	85.2
	lip	65	4.7	89.9
	lower lip	45	3.2	93.1
	mandible	33	2.4	95.5
	buccal mucosa	26	1.9	97.4
	upper lip	21	1.5	98.9
	parotid	9	0.6	99.6
	palate	6	0.4	100.0
	Total	1386	100.0	100.0

The lesions were widely divided into significant categorizations for ease of analysis (malignant, benign, reactionary, salivary gland and white) lesions (See Figure 3).

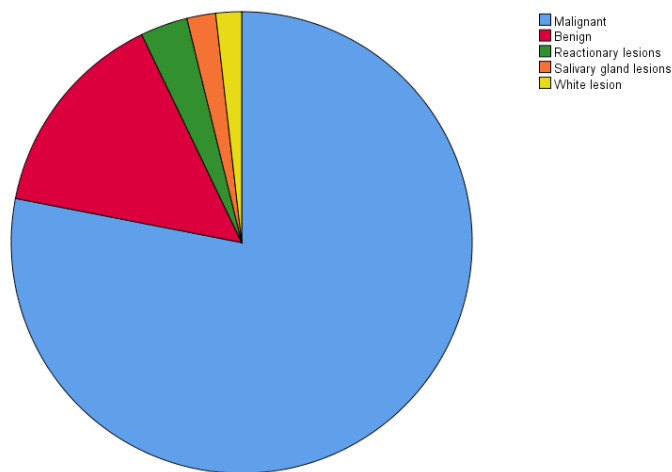


Figure 3: The types of lesion distribution.

Regular pathology revealed was malignant lesions about (1083) with percentage (78.13%) biopsies, the maximum frequency was Squamous cell carcinoma, NOS (846), followed by well differentiated squamous cell carcinoma, invasive (76) and the minimum frequency was poorly differentiated squamous cell carcinoma, invasive [1] (Table 2). Malignant lesions were realized more in male (554) biopsies than in female around (529).

Benign lesions accounted for (206) (14.90%) predominant was fibroma about (59), followed by fibroepithelial polyp (56). It was clearly observed more in female (113) than male (93) (Table 2).

Reactionary lesions making up (46) with percentage (3.30%) the predominant was pyogenic granuloma (44) and leukoplakia with atypia (2), (See Table 2). Both male and female were equal (23).

Salivary gland lesions accounted for (28) with percentage (2.00%) predominant was mucocele about (15), followed by mucoepidermoid carcinoma (7) and oral submucous fibrosis (6). Male (15) are slightly higher than female [13] (Table 2).

White lesions were (23) with percentage (1.65%) the predominant lesion was lichen planus (19) and chronic hyperplastic candidiasis (4). It was obviously showed more in male (15) than female (8) (Table 2).

For malignant lesions, realized generally in the ventral surface (357) with percentage (33.00%), tongue (254) with percentage (23.50%) and the lowest frequency was in buccal mucosa, palate and parotid (2) with percentage (0.20%) (Table 3).

Benign lesions, the regular site was tongue (77) with percentage (37.40%), followed by gingiva (49) with percentage (23.80%), lower lip (42) with percentage (20.40%) and the minimum frequency was in lateral border and ventral surface (1) with percentage (0.50%), respectively (Table 3).

Reactionary lesions, the regular site was tongue (19) with percentage (41.30%), followed by buccal mucosa (18) with percentage (39.10%) and lip (9) with percentage (19.60%) (Table 3).

Salivary gland lesions, revealed commonly in lip (17) with percentage (60.70%), followed by parotid (7) with percentage (25.00%) and buccal mucosa (4) with percentage (14.30%) (Table 3).

White lesions, the commonest regular site was the floor of the mouth (15) with percentage (60.00%) and the lowest frequency was in lateral border (1) with percentage (4.00%) (Table 3).

Table 2: The frequency distribution of lesion types according to gender.

	Behavior	Gender		Total	
		Male	Female		
Benign lesions	Morphology	Adenoid hyperplasia	1	3	4
		Ectomesenchymal chondromyxoid tumor	2	0	2
		Epithelial hyperplasia with focal atypia	2	0	2
		Fibroepithelial polyp	28	28	56
		Fibroma	26	33	59
		Giant cell Fibroma	10	10	20
		Granular cell tumor	2	4	6
		Lipoma	1	2	3
		Lobular capillary Hemangioma	2	3	5
		Lymphangioma	5	4	9
		Lymphoepithelial cyst	1	1	2
		Soft tissue tumor	1	3	4
		Squamous cell papilloma	1	2	3
Traumatic ulcerative granuloma with stromal eosinophilia	11	20	31		
Total		93	113	206	
Malignant lesions	Morphology	Adenocarcinoma, NOS	13	19	32
		Adenoid carcinoma	4	4	8
		Adenoid cystic carcinoma	2	6	8
		Adenoid hyperplasia	1	0	1
		Moderate differentiated squamous cell carcinoma, invasive	23	22	45
		Mucinous adenocarcinoma	1	1	2
		Papillary squamous cell carcinoma	1	2	3
		poorly differentiated squamous cell carcinoma, invasive	0	1	1
		Poorly differentiated squamous cell carcinoma, invasive	10	20	30
		Squamous cell carcinoma, NOS	440	406	846
		Squamous epithelium	18	11	29
		Verrucous carcinoma	1	1	2
		Well differentiated squamous cell carcinoma, invasive	40	36	76
Total		554	529	1083	
White lesions	Morphology	Chronic hyperplastic candidiasis	2	2	4
		Lichen planus	13	6	19
Total		15	8	23	
Salivary gland lesions	Morphology	Mucocele	6	9	15
		Mucoepidermoid carcinoma	4	3	7
		Oral submucous fibrosis	3	3	6
Total		13	15	28	
Reactionary lesions	Morphology	Leukoplakia with atypia	1	1	2
		Pyogenic granuloma	22	22	44
Total		23	23	46	

The malignant lesions are realized increasingly above 60 yrs, followed by age group (40-59) yrs, age group (25-39) yrs is more than age group under 15 yrs and (15-24) yrs (See Figure 4).

Table 3: The frequency distribution of lesion types according to site.

		Behavior	Frequency	Percent	Valid Percent	Cumulative Percent
Benign lesions	Valid	tongue	77	37.4	37.4	37.4
		gingiva	49	23.8	23.8	61.2
		lower lip	42	20.4	20.4	81.6
		upper lip	19	9.2	9.2	90.8
		lip	9	4.4	4.4	95.1
		floor of the mouth	4	1.9	1.9	97.1
		palate	4	1.9	1.9	99.0
		Lateral border	1	0.5	0.5	99.5
		ventral surface	1	0.5	0.5	100.0
		Total	206	100.0	100.0	
Malignant lesions	Valid	ventral surface	357	33.0	33.0	33.0
		tongue	254	23.5	23.5	56.5
		Lateral border	188	17.4	17.4	73.9
		floor of the mouth	160	14.8	14.8	88.7
		gingiva	53	4.9	4.9	93.6
		mandible	33	3.1	3.1	96.7
		lip	30	2.8	2.8	99.4
		buccal mucosa	2	0.2	0.2	99.6
		palate	2	0.2	0.2	99.8
		parotid	2	0.2	0.2	100.0
Total	1081	100.0	100.0			
White lesions	Valid	floor of the mouth	15	60.0	60.0	60.0
		lower lip	3	12.0	12.0	72.0
		buccal mucosa	2	8.0	8.0	80.0
		tongue	2	8.0	8.0	88.0
		upper lip	2	8.0	8.0	96.0
		Lateral border	1	4.0	4.0	100.0
		Total	25	100.0	100.0	
Salivary gland lesions	Valid	lip	17	60.7	60.7	60.7
		parotid	7	25.0	25.0	85.7
		buccal mucosa	4	14.3	14.3	100.0
		Total	28	100.0	100.0	
Reactionary lesions	Valid	tongue	19	41.3	41.3	41.3
		buccal mucosa	18	39.1	39.1	80.4
		lip	9	19.6	19.6	100.0
		Total	46	100.0	100.0	

Salivary gland lesions recognized increasingly around age group (40-59) yrs, followed by under 15 and (25-39) yrs, age group above 60 yrs is more than age group (15-24) yrs (See Figure 7).

White lesions, it can clearly observed that age group (25-39) yrs was the commonest frequency, followed by age group (15-24) yrs and the lowest frequency age group was above 60 yrs (See Figure 8).

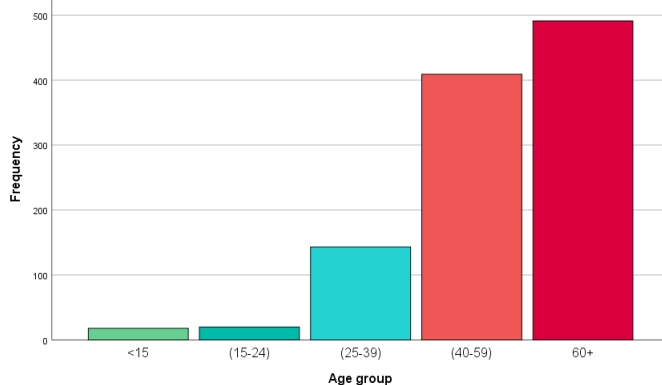


Figure 4: Distribution of malignant lesion type according to age groups.

The benign lesions are recognized increasingly around age group (40-59) yrs, followed by age group above 60 yrs, age group (25-39) yrs is more than age group under 15 and (15-24) yrs (See Figure 5).

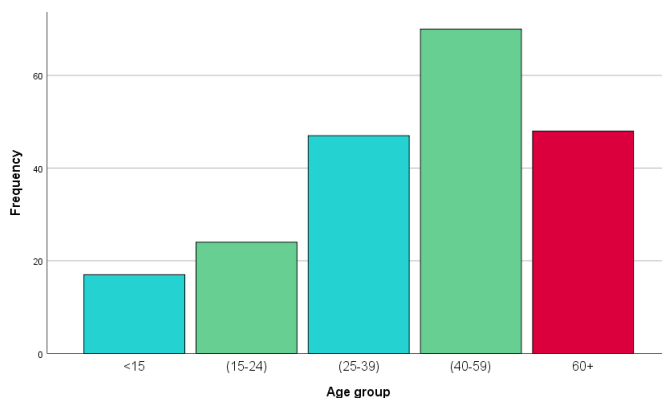


Figure 5: Distribution of benign lesion type according to age groups.

Reactionary lesions are realized increasingly around age group (15-24) yrs, followed by age group under 15 yrs, age group (25-39) yrs is more than age group above 60 yrs (See Figure 6).

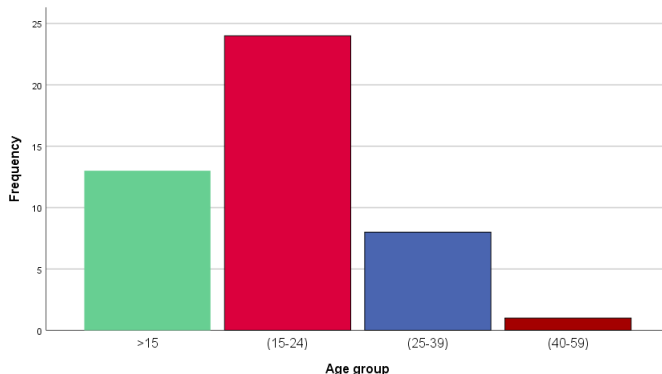


Figure 6: Distribution of reactionary lesions type according to age groups.

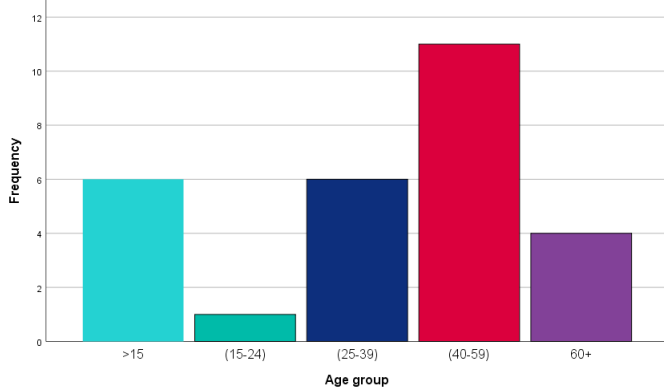


Figure 7: Distribution of reactionary lesions type according to age groups.

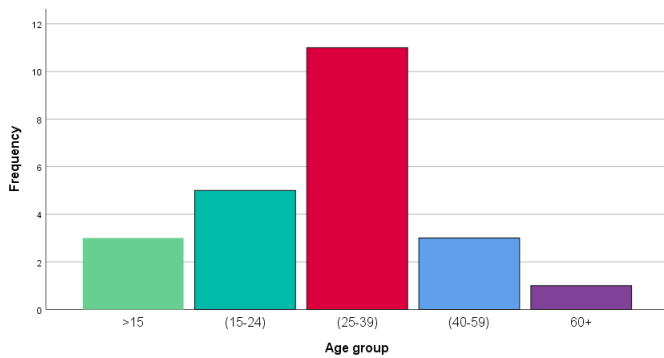


Figure 8: Distribution of white lesions type according to age groups.

Discussion

The oral cavity and the maxillofacial area may be host to a multiple of the appearance of the pathological lesions [9]. These lesions can generate from different tissues within this area and they can be malignant, benign, reactionary, salivary gland and white lesions as well as other more types [10].

This study introduced the maximum frequency of lesions was of malignant tumor (n=1083, 78.13%) with squamous cell carcinoma, NOS having the maximum frequency (n=846, 78.11%). Out of these tumors (n=440, 52.00%) appeared in males and (n=406, 48.00%) in females. Chiefly affecting in the ventral surface site, followed by tongue and the lowest frequency was in buccal mucosa, palate and parotid sites, respectively.

90% of the whole orofacial malignant tumor are squamous cell carcinoma that represents the eighth location in cancer grade worldwide, becoming the third most general malignancy in south central Asia [11].

The occurrence of oral cancer differs extremely about the world as cancer registration with respect to the WHO standards is relatively current [12].

Tumor like lesions exhibited male preponderance with a male, however not significant, this accepts with studies [13-15], however it is not accepted with studies [16,17].

Concerning the age groups biopsies from the age group above 60 yrs was more than other groups followed by more than seventh decades accept with study [18].

The present study revealed parallel effects to different national studies carried out in major governorates of Iraq, the whole of which recorded squamous cell carcinoma as one of the top three cancers comprising mostly the ventral surface, tongue, buccal mucosa, palate and parotid sites, impacting primarily males with increasing occurrence of female patients as well.

Benign lesions was the second lesions, the most extensively discovered was fibroma, obtained in between 40 and 60 yrs and this agreement with the study [19].

Fibroma occurs more normally in male than in female this might be due to extended appearance to risk feature by the male [20]. Although other inherent mechanisms such as malnutrition or iron insufficiency anaemia, which can show in female less than in males patients [21].

Reactionary lesions was the third lesions, and the most recognized one was pyogenic granuloma [22], observed the equal frequency in both genders [23], realized normally in tongue and buccal mucosa accept with study [24]. This study observed more reactionary lesions in the third decade, but, it is not accepted with study [25].

Mucocele was the commonest lesions of salivary gland lesions, seen less in female than female normally in parotid and the lip, in the fifth decade disagree with study [26].

Mucocelles are normally produced by the mucocelles extravasation followed by trauma to the duct of a salivary gland regularly in the lip [27]. Trauma to excretory duct causing in pooling of saliva in the neighboring submucosal tissue [28].

White lesions establish a rather general group of lesions, which are faced on routine oral investigation yet. This study are recorded only [25] patients of white lesions and diagnosed on clinical grounds and only suspicious patients are biopsied.

The current study recorded [19] patients of lichen planus that is one of the most frequent mucocutaneous immunological condition and carries a risk for malignant changes and happens mostly between 25 and 40 yrs of the life with 2.17:1 male to female ratio that is similar to the male predominance reported [29].

Conclusion

The lesions impacting on the oral cavity area establish a varied group of pathologies. Of the whole oral biopsies recorded at the different general Hospitals in Iraq, in the limited period between 2010 and 2020. Malignant lesions is the commonest lesions in this study and revealed commonly above 60 yrs patients. These have revealed that oral health education can be effective in increasing information in the short term and to some extent, behavior like tooth brushing and healthy eating. Measures should be designed to encourage the population to have routine oral investigation making a primary detection of any pathological changes happening that will support in improving dental and oral health of the population. Consequently, to sight oral lesions and other clinical topics, a web-based database can be established to gather the medical info to the whole patients registered from initial healthcare. These databases are a library epidemiological studies, occurrence, and mortality that used to include a new symptomatic and new treatment procedures to wholly diseases comprising oral lesions anyplace in Iraq.

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