



## Original Research Article

# Biopsy records to the oral lesions in Basrah between 2012-2017

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### ABSTRACT

**Objective:** The destinations of this examination were to direct a review of oral biopsied recorded to oral lesions in Basrah and compare with other studies.

**Materials and Methods:** Between 2012 and 2017, 560 biopsies recorded for oral lesions from the histopathological laboratories of Basrah Dental College, Basrah General Hospital and Al-Saddar Teaching Hospital and data from Basrah Cancer Registry. The biopsy result classified into six types: reactionary lesions, benign lesions, malignant lesions, cystic lesions, salivary gland lesions and Immunologically mediated lesions. From the oral biopsy records, information gathered included age grouped as follow: under 20, 20-29, 30-39, 40-49, 50-59, 60-69 and above 69. Sex: male and female. The anatomical area includes buccal mucosa, the floor of the mouth, gingiva, lower and upper lips, lower and upper jaws and tongue.

**Results:** The all outnumber of biopsy recorded was 560 report, about (n=283) 50.54% of the lesions taken from the male while (n=277) 49.46% were for females. The mean age at introduction was 38 years with the age range of 1 to 85 years. The peak age was ages underneath 20 years 124 (22.1%). The dominant part of the lesions has influenced the tongue 101 (18%) followed by buccal mucosa 89(15.9%)and gingiva 88(15.7%). Regular pathology discovered was reactionary injuries about 240(42.9%) biopsies, Malignant lesions accounted 107 (19.1%), Benigne lesions making up 91 (16.3%), Cyst 74(13.2%), Salivary gland lesions about 34(6.1%) biopsies and the Immunologically interceded lesions were 15 (2.9%)

**Conclusions:** In this study the biopsies record were reactionary lesions and generally among young patients, that means to increase the education among those patients to improve their oral health since they did not seek treatment in primary dental care.

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## 1. Introduction

The oral cavity is the entrance of the digestive related and respiratory tract. The mucous layer of the mouth comprises of squamous epithelium covering vascularized connective tissue. The epithelium is keratinized over the hard palate, lips, and over gingiva, while somewhere else, it is non-keratinized. Minor salivary glands are dissipated all through the oral mucosa.<sup>1</sup>

The oral cavity and maxillofacial area frequently affected by different pathological lesions like; neoplastic, cystic, keratotic, provocative, reactionary and others. The lesions of the oral cavity involve the teeth, gingiva, buccal mucosa, tongue and the salivary glands.<sup>2</sup>

When contrasting the recurrence of oral lesions in an alternate populace, major and minor contrasts concerning age, sex and geographic conveyances would be found. Good estimation and improvement of preventive measures will be accomplished thinking about the overall recurrence of oral lesions in a different area. Numerous investigations

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concentrating on the prevalence of oral and maxillofacial lesions have been managed over the world.<sup>1-4</sup>

Few studies on the commonness of the oral lesions in Iraq have been reported. No epidemiological investigations and no consideration has been paid to examine the predominance of oral lesions in Basrah.<sup>5</sup>

## 2. Materials and Methods

Around 560 biopsies record over 6 years (2012-2017) was recovered from all biopsies taken by oral specialists in maxillofacial division send to the histopathological research centres of Basrah Dental College, likewise from biopsy recorded in the histopathological laboratory in Basrah General Hospital and Al-sadder Teaching Hospital and information from Basrah Cancer Registry. For the oral biopsy records, information gathered included age, sex, anatomic site and pathological diagnosis. The age divided into groups under 20, 20-29, 30-39, 40-49, 50-59, 60-69 and above 69. The anatomical area includes buccal mucosa, the floor of the mouth, gingiva, lower and upper lips, lower and upper jaws and tongue. Biopsies were positioned in 5 classes, as follow: reactionary lesions, benign lesions, malignant lesions, cystic lesions, salivary gland lesions and Immunologically mediated lesions. The biopsy recorded with inadequate demographic details of patients and non-indicative biopsy was avoided from the examination. Information was broke down by clear insights utilizing SPSS form 20.

## 3. Result

The complete number of biopsy recorded was 560 About 283 (50.54%) of the lesions taken from the male while 277 (946%) were for females (Figure 1). The mean age at introduction was 38 years with the age range of 1 to 85 years. The peak age was ages underneath 20 years 124 (22.1%), fourth decade 96 (17.1%) and the third decade of life 93 (16.6%) (Figure 2). The larger part of the lesions influenced the tongue 102 (18.2%) followed by lower jaw 99(17.7%), buccal mucosa 88(15.7%), gingiva 86(15.4%), lower lip 69(12.3%), upper jaw 62(11.1%), palate 26(4.6%), the floor of the mouth 16(2.9%), and upper lip 12(2.1%) (Figure 3). The lesions were extensively subdivided into significant classifications for simplicity of examination and correlation with distributed writing of (benign, cyst, malignant, reactionary, salivary gland and Immunologically mediated) lesions (Figure 4).

Regular pathology discovered was reactionary lesions about 240(42.9%) biopsies, the upsetting was pyogenic granuloma 70(12.5%), Fibro-epithelial polyp 63(11.3%), central giant cell granuloma 22(3.9%), while peripheral giant cell granuloma structure 16(2.9%) biopsies from reactionary lesions (Table 1). Reactionary lesions were seen more in female 131 biopsies then in male around

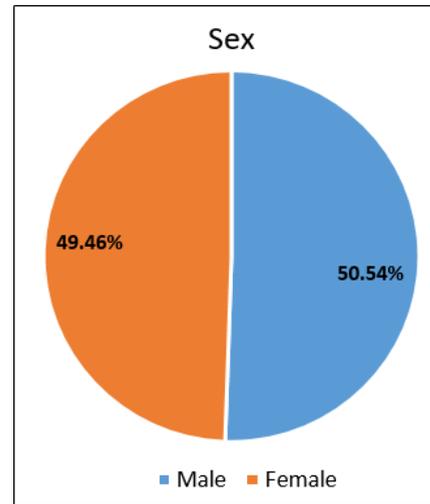


Fig. 1: Sex distribution

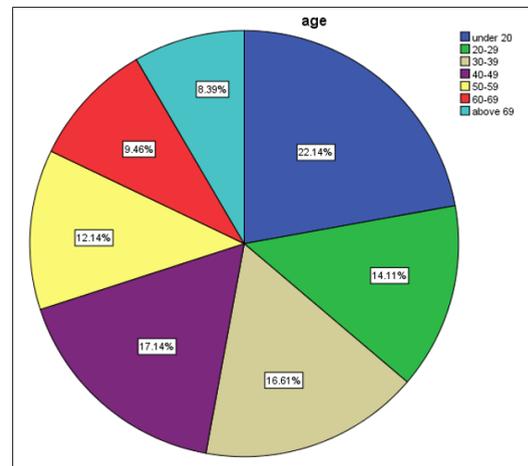


Fig. 2: Age group distribution

108 biopsies (Figure 5), The reactionary lesions are seen increasingly under 20 years, followed by the third decade, the second decade then fourth decade (Figure 6). Seen ordinarily in the gingiva 73(13%), buccal mucosa 41(7.3%) and tongue 37(6.6%) (Figure 7).

Malignant lesions accounted for 107 (19.1%) predominant was squamous cell carcinoma about 90(16.1%) (Table 1). Malignancy was seen more in male 62(11.1%) than female 45(8%) (Figure 5). The regular site was tongue 50(8.9%) (Figure 7), these lesions more in patients over 69 years, the sixth decade and fourth decade (Figure 6).

Benign lesions making up 91 (16.3%) the predominant was fibroma 46(8.2%), hemangioma 11(2%), and ameloblastoma 10(1.8%) (Table 1). It's more in female 48(8.6%) than male 49(8.8%) (Figure 5), introduced more in buccal mucosa 25(4.5%) (Figure 7). Benign lesions recorded more in a third, fourth decade then patients under 20 years (Figure 6).

Biopsies of cystic lesions were 74(13.2%) predominant was radicular cyst 51(9.1%), odontogenic keratocyst 18(3.2%), the cystic lesions is more in male 45(8%) than female 29(5.2%) (Figure 5), see progressively under 20 years, and second decade (Figure 6), must regular site for radicular cyst was the periapical area in upper jaws 27(4.8%) and lower jaw 23 (4.1%), while for odontogenic keratocyst seen more in lower jaw 14(2.5%) then upper jaw 4(0.7%)(Figure 7).

Salivary organ lesions about 34(6.1%) biopsies chiefly from minor salivary glands and sublingual gland, mucocele structure about 26(4.6%), pleomorphic adenoma 6(1.1%) (Table 1), the basic site was lower lip 20(3.6%) and palate 8(1.4%)(Figure 7).

Immunologically mediated lesions were 15 (2.7%) the predominant lesion was lichen planus 12(2.1%) seen totally in the buccal mucosa, and 3(0.5%) of Mucous membrane pemphigoid, seen in the gingiva (Figure 7) and (Table 1), recorded more in the sixth, the fourth decade and second (Figure 6).

The distribution of lesions from 2012-2017 showed in (Figures 8 and 9). The highest number of biopsies reported in 2016.

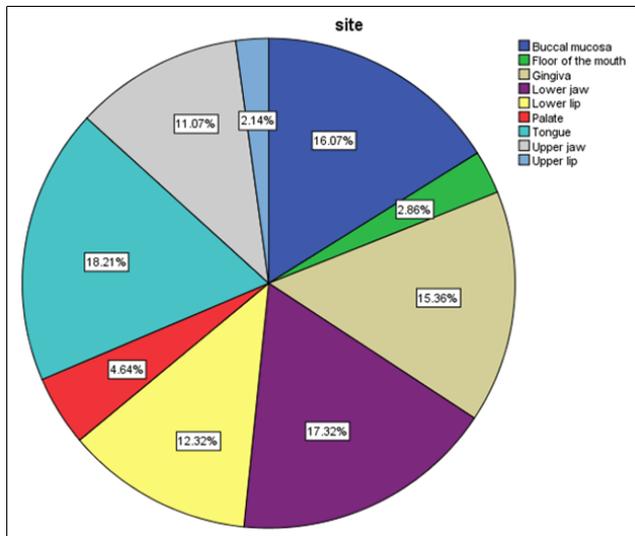


Fig. 3: Site distribution

**4. Discussion**

As we know all evidence-based information has linked between Oral Health and Systemic Disease. All the oral health problems have a great impact on many sectors, personal, social, and government from economic & health wise view in developing and non-developing countries.<sup>6</sup> There are varieties in learns about the occurrence and the epidemiology of oral lesions, these varieties identified with numerous elements, various strategies utilized, sex and age conveyance of the sample, specific social habits like

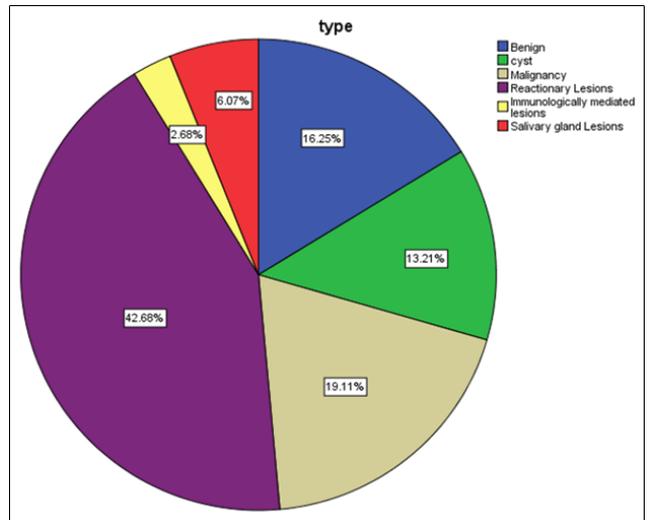


Fig. 4: Lesion types distribution

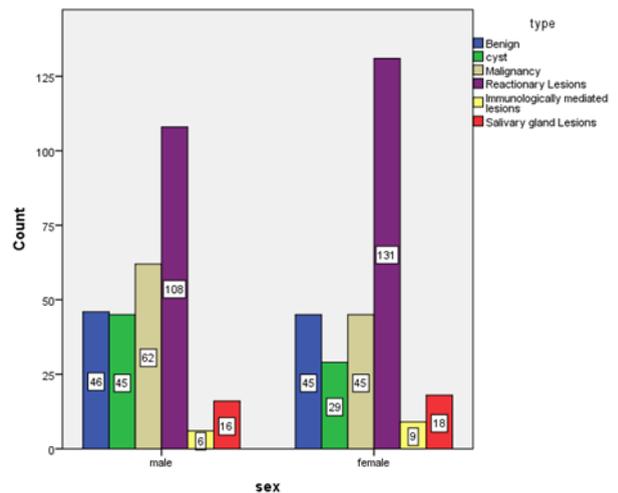


Fig. 5: Distribution of lesion types in relation to sex

smoking and alcohol consumption, variety in the clinical translation of parameters, real geographical dispersion of oral lesions, racial factor, education of the patients, financial components, social levels, the medication used, systemic diseases, nourishment type and size of the sample for the study. The way that reviews are not uniform concerning criteria, for example, age extend and demonstrative classes into which the lesions are gathered makes it hard to do coordinate examinations.<sup>1,4,7-9</sup>

The number of cases in male is more than females, but not significant, this agrees with studies in Iraq/Basrah,<sup>5</sup> Iraq/Sulaimani,<sup>10</sup> India<sup>11</sup> and Pakistan,<sup>2</sup> but disagree with studies in Saudia Arabia,<sup>12</sup> Iran<sup>9</sup> and Brazil.<sup>13</sup> Regarding the age groups in this study biopsies from the age group under 20 years was more than other groups followed by third and second decades agree with study in Brazil.<sup>8</sup>

**Table 1:** Lesion frequency and gender distribution

Lesion types	Female	Male	Total	Total %
<b>Reactionary Lesions</b>	<b>131</b>	<b>108</b>	<b>239</b>	<b>42.7%</b>
Central Giant Cell Granuloma	11	11	22	3.9%
Chronic non-specific inflammation	7	9	16	2.9%
Chronic inflammatory ulcer	2	5	7	1.3%
<b>Fibro-epithelial polyp</b>	<b>37</b>	<b>26</b>	<b>63</b>	<b>11.3%</b>
Fibromatosis	5	4	9	1.6%
Fibrous epulis	3	1	4	0.7%
Fibrous hyperplasia	4	3	7	1.3%
Frictional keratosis	1	1	2	0.4%
Hyperkeratosis	1		1	0.2%
Hyperplastic squamous epithelium	7	5	12	2.1%
Leukoplakia		2	2	0.4%
Osteomyelitis	1	1	2	0.4%
Peripheral Giant Cell Granuloma	9	7	16	2.9%
Pseudoepitheliomatous hypoplasia		2	2	0.4%
<b>Pyogenic granuloma</b>	<b>39</b>	<b>31</b>	<b>70</b>	<b>12.5%</b>
submucosal fibrosis	4		4	0.7%
<b>Malignancy</b>	<b>45</b>	<b>62</b>	<b>107</b>	<b>19.1%</b>
Adenocarcinoma		2	2	0.4%
Adenocystic carcinoma	1		1	0.2%
Basal cell carcinoma	2	2	4	0.7%
Chondrosarcoma		1	1	0.2%
Malignant melanoma		1	1	0.2%
Malignant schwannoma	1		1	0.2%
Non-Hodgkin s lymphoma		2	2	0.4%
Plasma cell myeloma	1		1	0.2%
Rhabdomyosarcoma		1	1	0.2%
<b>Squamous cell carcinoma</b>	<b>38</b>	<b>52</b>	<b>90</b>	<b>16.1%</b>
veirucous carcinoma	2	1	3	0.5%
<b>Benign</b>	<b>48</b>	<b>49</b>	<b>91</b>	<b>16.3%</b>
Ameloplastoma	6	4	10	1.8%
Angiofibolipoma		1	1	0.2%
Fibrolipoma	1		1	0.2%
<b>Fibroma</b>	<b>24</b>	<b>22</b>	<b>46</b>	<b>8.2%</b>
Fibrous dysplasia		1	1	0.2%
Fibrous osteoma	1	1	2	0.4%
Granular cell tumour		1	1	0.2%
Hemangioma	4	7	11	2.0%
Intradermal nevas	3	1	4	0.7%
Lipoma	1	4	5	0.9%
Monocystic adenoma	1		1	0.2%
Myofibroma		1	1	0.2%
Neurofibroma		2	2	0.4%
Ossifying fibroma	1		1	0.2%
Osteoma	2	1	3	0.5%
Papilloma	1		1	0.2%
<b>cyst</b>	<b>29</b>	<b>45</b>	<b>74</b>	<b>13.2%</b>
Dentigerous cyst		3	3	0.5%
Epidermal cyst		1	1	0.2%
Gingival cyst		1	1	0.2%
Odentogenic Keratocyst	9	9	18	3.2%
<b>Radicular cyst</b>	<b>20</b>	<b>31</b>	<b>51</b>	<b>9.1%</b>
<b>Salivary gland Lesions</b>	<b>18</b>	<b>16</b>	<b>34</b>	<b>6.1%</b>
<b>Mucocele</b>	<b>14</b>	<b>12</b>	<b>26</b>	<b>4.6%</b>
Sublingual ranula	1	1	2	0.4%
Pleomorphic adenoma	3	3	6	1.1%
<b>Immunologically mediated lesions</b>	<b>9</b>	<b>6</b>	<b>15</b>	<b>2.7%</b>
<b>Lichen planus</b>	<b>7</b>	<b>5</b>	<b>12</b>	<b>2.1%</b>
Mucos membrane pemphigoid	2	1	3	0.5%
<b>Total</b>	<b>277</b>	<b>283</b>	<b>560</b>	<b>100%</b>

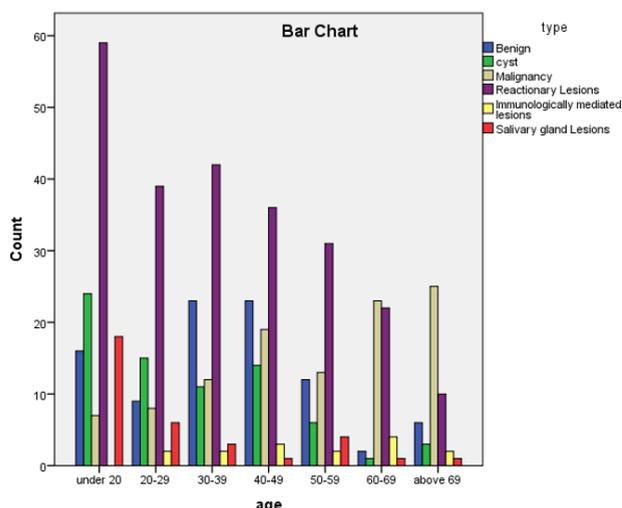


Fig. 6: Distribution of lesion types in relation to age groups

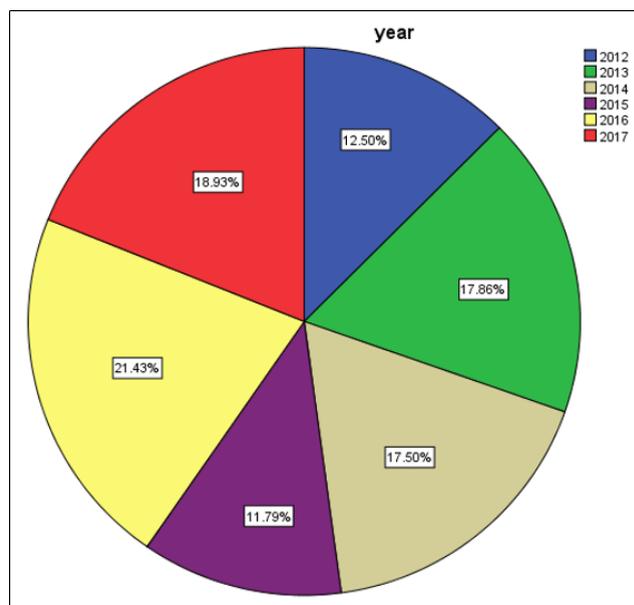


Fig. 8: Distribution of lesion according to the year

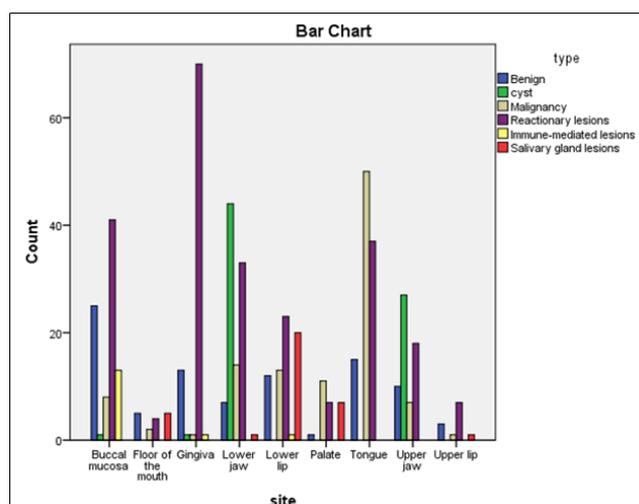


Fig. 7: Distribution of lesion types in relation to the site

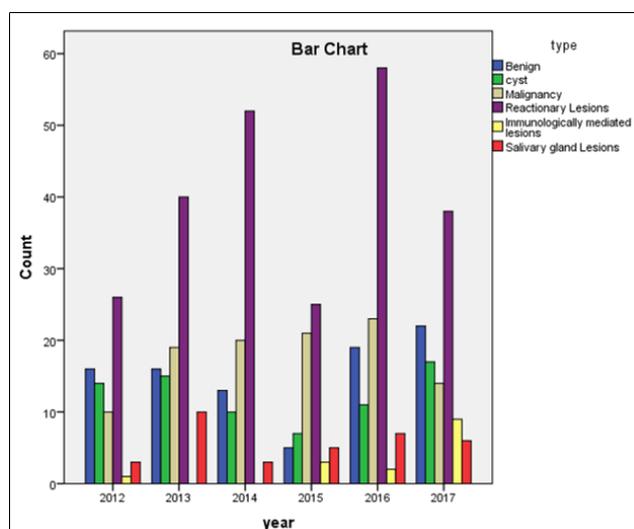


Fig. 9: Distribution of lesion types in relation to year

This examination is the biggest report on the occurrence of four fundamental histological kinds of reactive hyperplasia of the gingiva in Iraq. Pyogenic granuloma was the most well-known lesion happening over a wide age extend with a peak rate in the age group under 20 years, more reported in females similar perceptions were accounted for by study in Pakistan,<sup>2</sup> but another study pyogenic granuloma comes secondary to fibroepithelial polyp same as the study in Iraq/Baghdad,<sup>14</sup> also secondary to Inflammatory fibrous hyperplasia as a study in Brazil.<sup>8</sup> Multy etiologic factors, for example, injury to a deciduous tooth, chronic irritation, hormones, drugs, gingival inflammation, preexisting vascular injuries, chronic irritation because of shedding of deciduous teeth, the eruption of permanent teeth, poor restorations in the area of the tumour, food impaction, all-out periodontitis, toothbrush

injury, and so on have been proposed as etiological elements where patients gave these findings in Jerusalem.<sup>15</sup> In this study, pyogenic granuloma affecting females between under 20 years of age agree with study in Iraq/Baghdad.<sup>14</sup>

Reactionary injuries advancement right now bunch because of the impact of sex hormones which arrives at the most significant levels during adolescence with momentous disregard of oral health care, right now rendering gingival tissue progressively inclined to development growth because of the presence of calculus and dental plaque, in reality, female affected more than male this perhaps females deal with oral care or their parents were constricted

consideration regarding the oral health of female more than male as a study in Brazil.<sup>13</sup>

Malignant lesions coming secondary to reactionary lesions, the most widely recognized was squamous cell carcinoma, found in older people over 60 years and this concurrence with other studies in Iraq/Baghdad,<sup>16</sup> Sudan,<sup>17</sup> Saudi Arabia.<sup>18</sup> Adaptive immune responses in old persons and the long period of exposure to different carcinogens such as chemicals, radiation and viruses which are factors in the important risk development of oral cancer in Iraq/Basrah.<sup>19</sup> Oral carcinoma happens less habitually in female than in men this might be because of expanded presentation to risk factor by the male. Notwithstanding other inherent components like malnutrition or iron insufficiency anaemia that may exhibit in male more than in females patients as in Saudi Arabia.<sup>18</sup>

As per the age distribution, just 7.2% of malignancy happened in persons aged less than 30 years. The event of oral squamous cell carcinoma is uncommon among youthful people. The peak beginning of oral malignancy starts from the sixth decade onwards. This outcome might be perceived because of versatile resistant reactions in old people,<sup>4,17,18,20,21</sup> and extensive stretch of exposure to various cancer-causing agents, for example, synthetic compounds, radiation and infections which are significant hazard factors causes oral malignancy.<sup>2,15,21–23</sup> Alcohol consumption is viewed as a hazard factor for oral malignancy with cigarette smoking in Iraq, Libya and Egypt.<sup>24</sup> Utilization of Shamma and Qat were identified with the expanded danger of oral malignancy in Saudi Arabia and Yemen,<sup>20,25</sup> but these are not prevailing in Basrah.

While benign lesion was the third lesions, and the most well-known one was fibroma 46(50.5%), more in female than male, seen normally in buccal mucosa agree with study in Malaysia,<sup>26</sup> this study observed more benign lesion in the fourth decade, however, differ with study in Brazil.<sup>8</sup> That recorded fibroma comes after hemangioma and squamous papilloma. The fibroma is a typical site that reaction to injury from teeth or dental prostheses. Oral mucosa fibroma happens whenever there is trauma to the affected mucosa where accidental biting probably accounts for most of these lesions. A fibroma may happen at any oral site, however, it is seen regularly on the buccal mucosa because of cheek biting by upper and lower.<sup>26</sup>

Mucocele was the predominant lesions of salivary gland lesions 26(76.5%), more in female than male commonly in the lower lip, in the second decade agree with study in Brazil.<sup>8</sup> Mucoceles are typically caused by the extravasation of mucus followed by trauma to the duct of a salivary gland frequently in the lower lip. Trauma to the duct of a minor salivary gland can break the duct, leading to accumulation of saliva in the neighbouring connective tissue.<sup>27</sup>

Immunologically mediated lesions as 15(2.7%) of all lesions, the predominant were lichen planus 12(80%), more

in female than male commonly seen in buccal mucosa agree with studies in Iraq/Basrah<sup>5</sup> and Saudi Arabia,<sup>12</sup> disagree with study in Baghdad.<sup>28</sup> Conceivably there are obscure activating variables like different infectious agents, for example, cytomegalovirus or others which should be screened. Also, change in the resistance because of Uranium exposure may be another proposed activating element.<sup>28</sup>

Over 6 years, the general number of biopsy recorded was 560. The purpose behind the low number of biopsies of the oral lesions because biopsies were taken in the private hospitals, clinics and laboratories were not included in this study. Also, this might be identified with that some clinician relies upon clinical finding with no requirement for biopsy to analyse an abnormality of the oral lesions.<sup>15</sup> As shown in (figure 9) the number of biopsies is increased with years, that means there was a request to improve oral health by the patients. The executives of the health sector are described by a few basic insufficient, there is no conventional health approach and no normal procedure of vital arranging to proof-based decision making as well as there is no viable health data framework and no accessible information are frequently contradicted. The current limit in data improvement must be seriously measured, so that, the diagnosis, prognosis and treatment plan are based on accurate information to all lesions.<sup>29</sup>

## 5. Conclusion

In this study the biopsies record were reactionary lesions and generally among young patients, that means to increase the education among those patients to improve their oral health since they did not seek treatment in primary dental care. Therefore to contemplate oral lesions and other clinical issues, a web-based database must be developed to collect the medical information to all patients began from primary health care. This database is a platform for epidemiological examinations, prevalence, mortality as well as the improvement of new symptomatic and treatment techniques to all diseases including oral lesions anywhere in Iraq.

## 6. Source of Funding

None.

## 7. Conflict of Interest

None.

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