Original Article

ASSOCIATION BETWEEN CLINICAL AND HISTOPATHOLOGICAL DIAGNOSES IN ORAL CAVITY LESIONS

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ABSTRACT

Introduction: The oral cavity is a home to a varied range of swellings, benign, and malignant salivary gland growths, odontogenic and non-odontogenic tumor. Identification and management of lesions in oral cavity are known as essential portions of buccal care, the aim is to: Study the correlation between clinical and histopathological diagnoses and to Find out the association with age, gender, and site. **Method:** This was a hospital-based retrospective cross-sectional study of 193 individuals with oral cavity lesions. Inclusion criteria were specimens that were adequately preserved and representative of the lesion, whereas exclusion criteria were inadequately preserved specimens; neoplasms arising from the nasopharynx or oropharynx; bone tumours of the mandible and maxilla; and specimens that were not representative of the lesion and patients on chemotherapy or immunotherapy. Patients' age, gender, site of lesion inside oral cavity, types of neoplasm, and clinical features and presentations were taken from patient records. **Results:** Mean age of patients [42.7±21.3] years. [22.3%] of patients at 41-50 years old group, then [22.8%] of patients at >60 years. [55.4%] of patients were males and [44.6%] of patients were females. [46.1%] of patients had a lesion in the tongue while [20.7%] of patients had a lesion in the lower lip. [79.3%] of patients presented as a mass and [17.1%] of patients presented as ulcer. [39.38%] of patients had malignant type of oral lesion, [36.27%] had benign lesion, and [19.69%] of patients had non neoplastic lesion. There was a significant association between the types of neoplasm and (age groups, gender, site, and clinical features). **Conclusion:** Most of the patients in current study had malignant type of oral lesion, [36.27%] had benign lesion, and [19.69%] of patients had non neoplastic lesion. Females in age group more than 60 years old were the most common to have malignancy. Most of the patients had lesions in the tongue and had a mass as a clinical feature. There is significant association between the type of neoplasm and (age group, gender, site, and clinical features).

KEYWORDS: Association, Clinical, Histopathological Diagnoses, Oral Cavity Lesions.

INTRODUCTION

The lips' vermilion margin marks the front of the oral cavity (OC), which is bounded dorsally by the soft palate, buccally by the inner cheek, and posteriorly by the retromolar trigone and glossopalatine fold.[1] The oral cavity is a compound region situated in the head and neck areas and home to a varied range of swellings, benign, and malignant salivary gland growths, odontogenic and non-odontogenic tumor.[2,3] Identification and management of lesions in oral cavity are known as essential portions of buccal care.[4] Likewise, fine knowledge of initial finding and management of these lesions would significantly lead to the development of patient's survival rates and class of lifespan.[5] Each buccal lesion has dissimilar clinical features that help in diagnosis. Clinical diagnosis mistakes happen due to the similarities in clinical appearances, absence of exact descriptions for these features, unsuitability of the signs and symptoms in patients, and the occurrence of numerous signs for a lesion.[6,7] Hence, to reduce misdiagnoses and to reach more precise diagnosis, it is essential to study the patients' main complaints, medical and dental histories registers, clinical appearances, and numerous tests like biopsies with microscopic assessments and blood examinations.[7] Histopathologic examination, as the gold

typical in the assessment of buccal lesions, is used to check the clinical identification.[8] The clinical examination is considered as an actual and significant stage for approving pathology outcomes and will also be quite beneficial.[9] So, the early clinical diagnosis made by clinicians must be precise. Furthermore, it should not miss any malignant lesions and a close teamwork between the clinician and the pathologist is necessary in this regard, in order to reach a conclusive and right judgement.[3] OML may present with variable symptoms like burning feeling, soreness, intolerance to hot food, trouble in swallowing, ulceration, and reduced mouth opening which disturbs day to day actions. Numerous groups of illnesses related with OML are pre-malignant lesions like "leukoplakia, erythroplakia, oral submucosal fibrosis (SMF), actinic cheilitis; malignant oral squamous cell carcinoma (SCC); vesiculobullous disorders; lichen planus and other lichenoid disorders; infections: bacterial, viral and fungal; collagen vascular diseases; vasculitis like Behcets disease; erythema multiforme; recurrent aphthous stomatitis".[10] The aim is to study the correlation between clinical and histopathological diagnoses and to find out the association with age, gender, and site.

METHOD
It was a retrospective cross-sectional study of 193 individuals with oral cancer cavity lesions in which patient data were collected from November 2019 to February 2022. All the patients presenting to the department of Histopathology, Martyr Ghazi AlHariri hospital for surgical specialties, Baghdad, Iraq and department of Histopathology, nursing home hospital, Baghdad, Iraq for oral cavity lesions were analysed histopathologically as part of the research. A sufficient and representative specimen of the lesion was required for inclusion, whereas insufficiently preserved specimens, neoplasms originating in the nasopharynx or oropharynx, and bone tumours of the jaw or maxilla were also disqualified and patients on chemotherapy or immunotherapy. Patients' age, gender, site of lesion inside oral cavity, types of neoplasm, and clinical features and presentations were taken from patient records. Statistical analysis was done by SPSS 22. Frequency and percentage were used for categorical data while mean, median, and SD were used for continuous data. Chi-square test was used to assess the association between variables. P-value less or equal to 0.05 is consider statistically significant.

RESULTS
Mean age of patients [42.7±21.3] years. [22.3%] of patients at 41-50 years old group, then [22.8%] of patients at >60 years. [55.4%] of patients were males and [44.6%] of patients were females. [46.1%] of patients had a lesion in the tongue while [20.7%] of patients had a lesion in the lower lip. [79.3%] of patients presented as a mass and [17.1%] of patients presented as ulcer as shown in table 1.

Table 1: Distribution of patients according to (Age groups, Gender, Site and Clinical features).

variables		frequency	percentage
Age groups (years)	1-10	17	8.8
	11-20	24	12.4
	21-30	16	8.3
	31-40	23	11.9
	41-50	43	22.3
	51-60	26	13.5
	>60	44	22.8
Gender	female	107	55.4
	Male	86	44.6
	Tongue	89	46.1
Site	Lower lip	40	20.7
	Floor of the mouth	27	14
	Buccal mucosa	21	10.9
	Upper lip	16	8.3
Clinical features	Mass	153	79.3
	Ulcer	33	17.1
	Cyst	7	3.6

As shown in figure 1: [39.38%] of patients had malignant type of oral lesion, [36.27%] had benign lesion and [19.69%] of patients had non neoplastic lesion.
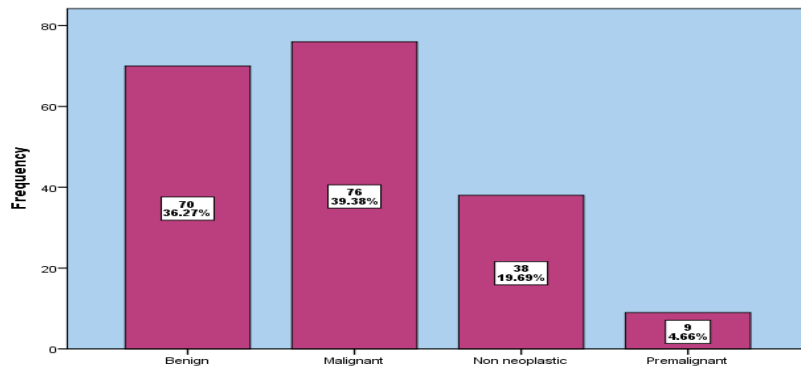
Figure 1: distribution of patients according to type of neoplasm.

As shown in figure 2: the histopathological distribution of patients was: 61 patients had squamous cell carcinoma, 30 patients had fibro epithelial polyp, 22 patients pyogenic granuloma, and 20 patients had mucocele.
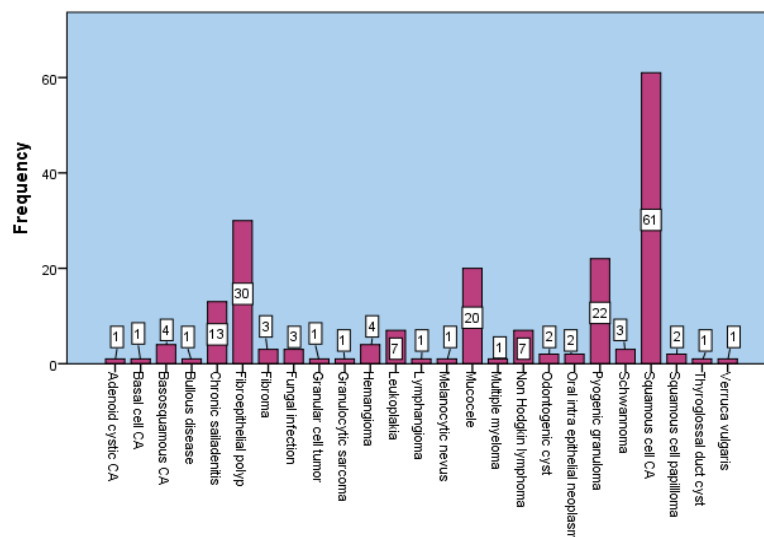

Figure 2: Histopathological distribution of patients.

There is significant association between types of neoplasm and (age groups, gender, site and clinical features). [43.4%] of patients had malignant oral lesion and [33.3%] had premalignant oral lesion in age group > 60 years, [23.7%] of patients had non neoplastic oral lesion in age group 1-10 and 11-20 years. [61.8%] of patients who had malignant oral lesion are males and [55.6%] who had premalignant oral lesion are females. Also [63.2%] of patients who had non neoplastic lesions are females. [59.2%] of patients had malignant oral lesion in the tongue, [28.9%] of patients had non neoplastic oral lesion in the floor of mouth, and [55.6%] had premalignant oral lesion in the tongue. [65.8%] of patients had malignant oral lesion associated with mass as clinical feature and [34.2%] of patients had malignant oral lesion associated with ulcer as clinical feature as shown in table 2.

Table 2: Association between types of neoplasm and (Age groups, Gender, Site and Clinical features).

Variables		Type of neoplasm				P-value
		Benign	Malignant	Non neoplastic	Premalignant	
Age groups	*1-10*	7	1	9	0	0.0001
		10.0%	1.3%	23.7%	0.0%	
	11-20	15	0	9	0	
		21.4%	0.0%	23.7%	0.0%	
	21-30	12	2	2	0	

		17.1%	2.6%	5.3%	0.0%	
	31-40	14	2	5	2	
		20.0%	2.6%	13.2%	22.2%	
	41-50	11	23	7	2	
		15.7%	30.3%	18.4%	22.2%	
	51-60	7	15	2	2	
		10.0%	19.7%	5.3%	22.2%	
	>60	4	33	4	3	
Gender		5.7%	43.4%	10.5%	33.3%	0.0001
	Total	70	76	38	9	
		100.0%	100.0%	100.0%	100.0%	
	Female	49	29	24	5	
		70.0%	38.2%	63.2%	55.6%	
	Male	21	47	14	4	
		30.0%	61.8%	36.8%	44.4%	
	Total	70	76	38	9	
		100.0%	100.0%	100.0%	100.0%	
Site	*Buccal*	11	4	4	2	0.0001
		15.7%	5.3%	10.5%	22.2%	
	Floor	8	7	11	1	
		11.4%	9.2%	28.9%	11.1%	
	Lower lip	14	15	10	1	
		20.0%	19.7%	26.3%	11.1%	
	Tongue	35	45	4	5	
		50.0%	59.2%	10.5%	55.6%	
	Upper lip	2	5	9	0	
		2.9%	6.6%	23.7%	0.0%	
	Total	70	76	38	9	
		100.0%	100.0%	100.0%	100.0%	
Clinical features	*Cyst*	0	0	7	0	0.0001
		0.0%	0.0%	18.4%	0.0%	
	Mass	69	50	28	6	
		98.6%	65.8%	73.7%	66.7%	
	Ulcer	1	26	3	3	
		1.4%	34.2%	7.9%	33.3%	
	Total	70	76	38	9	
		100.0%	100.0%	100.0%	100.0%	

P-value ≤ 0.05 (significant).

DISCUSSION

Oral mucosal lesions may manifest themselves in a wide variety of ways, either as isolated oral sequelae or in connection with systemic or dermatological conditions. Similar to a previous research, which found that 52% of patients were females aged 60 and above,[11,12,13] the majority of patients in the current study were also female. Long-term oral habits may contribute to an increased number of lesions in the elderly.[14] Even though past studies have shown the tongue to be the most frequent location of occurrence, this one found that the buccal mucosa was the most common place (45%), followed by the lip (24%). Like the current research, which found that 79.3% of patients presented as a mass and 17.1% as an ulcer, others have shown that swelling (60% of cases) is the most prevalent presentation of lesions in the oral cavity, followed by ulcers (27.0% of cases) (34 cases).[11] Lesion types most often seen in the oral cavity are ulcer (44.5%) and white plaque (12.9%).[17] Patients in the present research had a malignant oral lesion [39.38%], a benign lesion [36.27%], or a non-neoplastic lesion [19.69%]. This is in line with the findings of 24.5% malignant lesions reported by Shamim et al.[18] The incidence of non-malignant lesions in the current research rose to 76.4%[11] if non neoplastic, benign, and premalignant lesions were included. Histopathologically, the patients in this research were divided as follows: 61 cases of squamous cell carcinoma, 30 cases of fibroepithelial polyp, 22 cases of pyogenic granuloma, and 20 cases of mucocele. This finding is consistent with previous research demonstrating the prevalence of fibroepithelial polyps and squamous papillomas[11,19,20] For patients older than 60 years, 43.4% had a malignant lesion, 33.3% had a premalignant lesion, and 23.7% had a non-neoplastic lesion in the mouth. Consistent with previous research, the majority of malignant lesions (18 out of 30) were seen in patients aged 51 to 70.[11,19] This is because they found that instances and the development of risky behaviours tended to cluster among people of the same

age. Although our results varied significantly from those of a few other studies,[22] we did find an elevated incidence of oral cancer in the younger age range of 41-50 years. Malignant oral lesions were found in the tongues of 59.2% of patients, the floors of the mouths of 28.9%, and the tongues of 55.6% of patients with this research. This is consistent with previous research showing that malignant lesions most often develop on the tongue (13 cases, 43.5%), followed by the lip (5 cases, 16.5%) and the floor of the mouth (5 cases, 16.5%).[11] Even in Pakistan, where Wahid et al.[15] found that the buccal mucosa was the most prevalent location (34%), followed by the lip (26%) and the tongue (21%), these percentages were quite similar. Additionally, malignant oral lesion associated with mass was present in 65.8% of patients and malignant oral lesion linked with ulcer was present in 34.2% of patients. Additionally, two investigations reported that malignant lesions most often manifested as ulcers (60%, 18 instances), followed by swelling/growth (11 cases, 36.5%). Multiple investigations documenting malignant lesion manifested as a tumour or ulcer showed consistent results.[23,24] Therefore, if a patient appears with either an ulcer or a swelling/growth, or both, a strong suspicion of malignancy should be raised. Out of a total of 30 malignant instances, squamous cell carcinoma accounted for 28 (93.6%) of the malignant lesions. Vatsala et al.[25] and Shubha et al.[26] both indicated that squamous cell carcinoma accounted for around 60% of cases, a statistic that is consistent with the former. In two studies, Ahluwalia et al.[27] found that squamous cell carcinoma accounted for 82.7% and 89.9% of cancers. That squamous cell carcinoma is the most prevalent malignant lesion is consistent with our findings.

CONCLUSION

Most of the patients in the current study had malignant type of oral lesion, [36.27%] had benign lesion, and [19.69%] of patients had non neoplastic lesion. Females in age group more than 60 years old were the most common to have malignancy, most of patients had a lesion in the tongue and had a mass as clinical feature. There was significant association between the type of neoplasm and (age groups, gender, site, and clinical features).

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