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Association between clinical and histopathological oral lesion diagnoses among Iraqi patients

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Abstract

Introduction: A potentially malignant oral lesion (PMOL) refers to a morphologically altered tissue that has a higher likelihood of developing cancer compared to its apparently normal counterpart. Among PMOLs, leukoplakia is the most common lesion found in the oral mucosa. The aim of study is to evaluate clinical characteristics of oral lesions by comparing with histopathological diagnosis. **Method:** included a descriptive analysis of data from 75 patients seen between May 2022 and May 2023 at the oral and maxillofacial surgery clinic at AL-Yarmouk Teaching Hospital, Ghazi AL-Hariri Hospital for specialized Surgery. Information about the patient's age, the lesion's location and duration, the clinician's diagnosis, and the ultimate histological diagnosis and course of therapy. Each patient's medical history was taken after a thorough examination of their mouth.

Results: 81.8% of oral surgeon-diagnosed malignant lesions are also histopathologist-diagnosed. The histopathologist confirms 97.8% of oral surgeon-diagnosed benign lesions.

Conclusion: Clinical evaluation and histological diagnosis were significantly correlated, indicating that Iraqi maxillofacial surgeons were well-trained and that clinical diagnosis of mouth cancer was highly correlated with pathological diagnosis.

Keywords: Association, clinical, histopathological, diagnosis, oral lesions, Iraqi patients

Introductions

Oral cavity is a complex anatomical region continuously exposed to external factors, such as physical trauma, chemical agents, and microorganisms. The buccal cavity is one of the body's most essential organs, performing functions such as chewing, ingesting, speaking, and inhaling. Nonetheless, it is susceptible to a variety of pathologic conditions, including non-neoplastic and neoplastic lesions [1]. Non-neoplastic lesions are benign pathologic alterations that lack invasive or metastasizing characteristics [1]. They may be caused by local irritation, infection, or systemic disease. Fibroma, oral lichen planus, and traumatic ulcers are examples of common benign lesions [2]. Neoplastic lesions, on the other hand, are characterised by anomalous cell growth and proliferation and can be benign or malignant [3]. Squamous cell carcinoma, adenocarcinoma, and lymphoma are examples of common neoplastic lesions [4]. Potentially malignant disorders are conditions with a significant risk of malignant transformation if left untreated or treated inadequately [5]. There are three classifications for these lesions: leukoplakia, erythroplakia, and oral submucous fibrosis [6]. Leukoplakia is an impervious white patch or plaque, whereas erythroplakia is a red patch or plaque that may have surface irregularities [7]. Oral submucous fibrosis is a progressive, chronic disease characterised by fibrosis of the oral mucosa and connective tissue beneath [8]. Patients with potentially malignant conditions require close observation and, if necessary, a biopsy or excisional surgery. The diagnosis of oral pathologic changes is based on clinical and radiographic findings, but histopathological examination of the lesion [9] provides the definitive diagnosis. Histopathology provides crucial information regarding the nature of the lesion, the extent of dysplasia, and the presence of malignant characteristics [10]. A precise diagnosis is essential for effective management and treatment. The treatment of oral pathologic lesions is determined by the lesion's nature, size, location, and stage. Options for treatment include excision, radiation therapy, and chemotherapy [11]. Early detection and treatment of potentially malignant conditions can prevent malignant transformation and improve prognosis [12]. The aim of study is to evaluate clinical characteristics of oral lesions by comparing with histopathological diagnosis.

Method

A total of 75 patients from the oral and maxillofacial surgery clinic at Al-Yarmouk Teaching Hospital, Ghazi AL-Hariri Hospital for specialized Surgery were included in this study seen between May 2022 and May 2023 at. Information about the patient's age, the lesion's location and duration, the clinician's diagnosis, and the ultimate histological diagnosis and course of therapy. Each patient's medical history was taken after a thorough examination of their mouth. Inclusion criteria include all patients have oral lesions not diagnosis previously. Exclusion criteria include any patients with oral lesions who not need biopsy for diagnosis and any patients with oral lesions have lost follow up. All patients who met the inclusion criteria had a biopsy performed, and lesions were sent out for histological analysis. Using SPSS 22, calculated of the frequency and

percentage as well as the mean and standard deviation of continuous data. Chi-square was employed to analyses the correlation between the variables. A significant p-value is less than or equal to 0.05.

Results

Cross sectional study of 75 patients with oral lesions, mean age of patients 43 ± 17 years old. As shown in table below; there is highly significant association between clinical diagnosis of oral carcinoma and Pathological Diagnosis, 81.8% of patients diagnosed clinically by oral surgeon as malignant lesion the hitopathologist also have the same diagnosis report. And 97.8% of patients diagnosed clinically by oral surgeon as benign lesion the hitopathologist also have the same diagnosis report.

Table 1: Association between clinical diagnosis of oral carcinoma and Pathological Diagnosis.

Variables		Clinical Diagnosis			Total	P-value
		Malignant	Benign	Premalignant		
Pathological Diagnosis	Malignant	18 81.8%	4 18.2%	0 0.0%	22 100.0%	0.0001
	Benign	1 2.2%	44 97.8%	0 0.0%	45 100.0%	
	Premalignant	2 25.0%	2 25.0%	4 50.0%	8 100.0%	

P-value ≤ 0.05 (significant).

Discussion

This paper was written to demonstrate the firsthand experience of maxillofacial surgeons in identifying mouth cancer, since there had previously been no oral screening programmes in Iraq. Dentists' analysis is critical in the early identification, prevention, diagnosis, and treatment of oral disorders. To achieve a definite diagnosis, supplementary procedures such as biopsies and microscopic exams, which are regarded gold standard techniques, must be used. Furthermore, it is essential to complete the patient's medical history (CH) properly in order to rule out habits or systemic disorders that may be connected with oral lesions [13]. The research you referenced shows a high correlation between clinical and pathological diagnosis in patients of oral cancer. According to the data, when oral surgeons clinically identified a lesion as malignant, histopathologists agreed in 81.8% of instances. Similarly, when oral surgeons clinically classified a lesion as benign, histopathologists concurred in 97.8% of instances. This high degree of concordance between clinical and pathological diagnosis is critical in the treatment of oral cancer. It suggests that clinical evaluation by oral surgeons is important in detecting possibly malignant lesions and deciding the best course of therapy. Furthermore, the research demonstrates that oral surgeons' ability in detecting suspicious lesions and establishing appropriate clinical diagnoses is trustworthy. A close connection between clinical and pathological diagnosis in instances of oral cancer is significant for a number of reasons. For starters, it aids in treatment choices since a timely and correct diagnosis is critical for selecting the best therapeutic strategy. Second, it allows oral surgeons and histopathologists to communicate and collaborate effectively. Several research has been conducted to investigate the agreement between clinical and histological diagnosis in oral lesions. Tandon *et al.* (2014) [14] examined the agreement between clinical and histological diagnosis in

oral squamous cell carcinoma and found a high degree of concordance (92.3%) [14]. This research further emphasised the significance of histological testing in instances when clinical presentation does not conclusively indicate dysplasia or cancer. In general, the findings of previous investigations corroborate the conclusions of this study. Emamverdizadeh *et al.* (2019), Aquino *et al.* (2010), and Souza, Soares, and Moreira (2014) all found comparable levels of concordance between clinical and histological diagnosis of oral lesions [15-17]. The findings of this research show a strong relationship between the concordance rate of histopathological and clinical diagnosis and the kind of lesion. This conclusion is comparable with those of Saravani *et al.* [18, 19], who discovered a substantial relationship between the type of lesion (neoplastic or non-neoplastic) and clinicopathological concordance. Saravani *et al.* [18] divided lesions into five main groups, with exophytic lesions being the most prevalent. They also found that the occurrence of pigmented lesions was the lowest, while the concordance rates were greatest for white and scarlet lesions. In terms of congruence between white and red lesions, oral lichen planus stands out as the most prevalent and consistent (88.6%). While Fattahi *et al.* [20] found a 100% clinicopathological concordance rate for lichen planus, Goyal *et al.* [21] found just a 91.4% concordance rate.

Conclusion

Clinical assessment was in highly agreement with histopathological diagnosis, this mean that; maxillofacial surgeons in Iraq were highly qualified and there is highly significant association between clinical diagnosis of oral carcinoma and Pathological Diagnosis

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