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The Prevalence of Reactive Oral Masses During Period 2017–2023: Clinical and Histological Study

Conflict of interest: nothing to declare.

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Abstract

Introduction. Reactive lesions are benign clinicopathological conditions that emerge as a consequence of chronic and recurring tissue damage, resulting in an excessive tissue response.

Purpose. The aim was to assess prevalence of reactive oral masses among patients attending College of Dentistry, during period 2017–2023.

Materials and methods. The record of 51 biopsies from patients with reactive oral mass diagnosed in histopathology laboratory in College of Dentistry. The data analyzed regarding the age, gender of the patient, the histopathological diagnosis, and the site of the mass.

Results. Among 51 cases, 33 (64.7%) of them were females and 18 (35.3%) were males. Their age ranged from (15–85 years) with mean age of 39.59 ± 17.23 years. 47.1% of the patients diagnosed as pyogenic granuloma followed by 25.5 % with irritation fibroma. Gingival site had the hieghest percentage of these mass (39.3%).

Conclusion. The findings in this study reveals a higher proportion of reactive mass in females with the majority fall in the 20–39 age group. The most common type of diagnosis was pyogenic granuloma and the gingiva was the commenst site.

Keywords: oral reactive lesion, pyopgenic granulom, irritation fibroma, peripheral giant cell granuloma, dentistry



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Распространенность реактивных образований в полости рта в период 2017–2023 гг.: клинико-гистологическое исследование

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Резюме

Введение. Реактивные образования – это доброкачественные клинико-патологические состояния, возникающие как следствие хронического и повторяющегося повреждения тканей, приводящего к чрезмерной тканевой реакции.

Цель. Оценить распространенность реактивных образований в полости рта среди пациентов стоматологического колледжа в период 2017–2023 гг.

Материалы и методы. Проанализирована 51 биопсия от пациентов с реактивными образованиями в полости рта, диагностированными в лаборатории гистопатологии стоматологического колледжа. Анализировались данные о возрасте, поле пациента, гистопатологическом диагнозе и месте расположения образования.

Результаты. Из 51 пациента женщин было 33 (64,7%), мужчин – 18 (35,3%). Их возраст варьировал от 15 до 85 лет, средний возраст составил $39,59 \pm 17,23$ года. У 47,1% пациентов была диагностирована пиогенная гранулема, а у 25,5% – ирритативная фиброма. Наибольший процент таких образований приходился на десну (39,3%).

Заключение. Результаты данного исследования свидетельствуют о более высокой доле реактивных образований у женщин, большинство из которых приходится на возрастную группу 20–39 лет. Наиболее частым типом диагноза была пиогенная гранулема, а наиболее распространенным местом – десна.

Ключевые слова: реактивное поражение полости рта, пиогенная гранулема, ирритативная фиброма, периферическая гигантоклеточная гранулема, стоматология

■ INTRODUCTION

Reactive lesions are benign clinicopathological conditions that emerge as a consequence of chronic and recurring tissue damage, resulting in an excessive tissue response. The reactive lesions are often seen in the gingiva and may also manifest in other areas inside the oral cavity. Despite being benign, it has a tendency for recurrence, which necessitates thorough excision [1].

The clinical characteristics of these masses consist of either sessile or pedunculated masses with a smooth or damaged surface, displaying a range of colours from bright pink to red [2]. These masses may be identified by their distinctive histological pattern or characteristic, which can be categorised into vascular such as (pyogenic granuloma and peripheral giant cell granuloma) and fibrous forms such as (Fibroma and peripheral ossifying fibroma). Clinical presentation of these masses indicates the presence of neoplastic growths, which is a challenge for the dentists to be accurately identify the illness [3].

Dealing with a reactive lesion of the oral cavity, especially if it causes significant symptoms or requires invasive treatment, can have psychological effect for the patients which necessitate psychological support and counselling [4].

The study primarily focused on investigating the demographic characteristics of the participants, such as the distribution of genders and age ranges. In addition, we examined the correlations between gender and the specific kind of detected masses in order to get insights into possible risk factors or predisposing variables. Our goal in analysing these parameters is to add to the current body of knowledge on oral pathology and improve our comprehension of the occurrence and clinical characteristics of reactive oral lesions in the Basrah community.

■ PURPOSE

The aim of this study is to determine the prevalence of reactive masses of the oral cavity among patients attending College of Dentistry / University of Basrah – Iraq during the period from 2017–2023.

■ MATERIALS AND METHODS

This retrospective study carried out from (2017–2023) with record of 51 biopsies from patients with reactive oral mass diagnosed in histopathology laboratory in college of Dentistry, University of Basrah. The data analyzed regarding the age, gender of the patient, the histopathological diagnosis, and the site of the mass. Clinical examination done for all patients. Histological investigation done for all biopsies taken. All data collected were recorded. Data included age of patients, sex and site of mass. The histopathological diagnosis of reactive oral mass documented depending on reports.

Ethical approval

The Reviewer Board Committee of College of Dentistry, University of Basrah was approved this work (No. 39 in 2016).

Statistical analysis

Data was entered using computerized statistical software; Statistical Package for Social Sciences (SPSS) version 26 was used. Quantitative data were presented as (mean $\pm$ standard deviation) while qualitative data were presented as frequencies and percentages.

■ RESULTS

In this study there was 51 patients included, 33 (64.7%) of them were females and 18 (35.3%) were males, as shown in table 1.



Table 1
The distribution of gender of participant

Gender	No.	%
Male	18	35.3
Female	33	64.7

Table 2 shows the age distribution of the participants. Their age ranged from 15–85 years with mean age of 39.59 ± 17.23 years. Most of them (41.2%) were between the 20–39 years.

The histopathological diagnosis of reactive oral mass was presented in table 3. Fibroepithelial polyp was diagnosed among seven patients (Fig. 1). Peripheral giant cell granuloma among 9.8% of them (Fig. 2) and only one patient had a peripheral ossifying fibroma. In total, 47.1% of the patients diagnosed as pyogenic granuloma (Fig. 4) followed by 25.5% with irritation fibroma (Fig. 3).

The mass sites were presented in table 4. Gingiva had the highest percentage (39.3%) of masses and palate had the lowest percentage of them (7.8%).

Table 2
The age distribution of participants

	No.	%
Age (years), mean range	39.59 ± 17.23 (15–85)	
<20	5	9.8
20–39	21	41.2
40–59	18	35.3
>60	7	13.7

Table 3
The histopathological diagnosis of reactive oral mass

Diagnosis	No.	%
Irritation Fibroma	13	25.5
Pyogenic granuloma	25	47.1
Fibroepithelial polyp	7	13.7
Peripheral Ossifying fibroma	1	2.0
Peripheral giant cell granuloma	5	9.8

Table 4
The site distribution of the masses

Site	No.	%
Buccal mucosa	15	29.4
Tongue	5	9.8
Lips	7	13.7
Gingiva	20	39.3
Palate	4	7.8

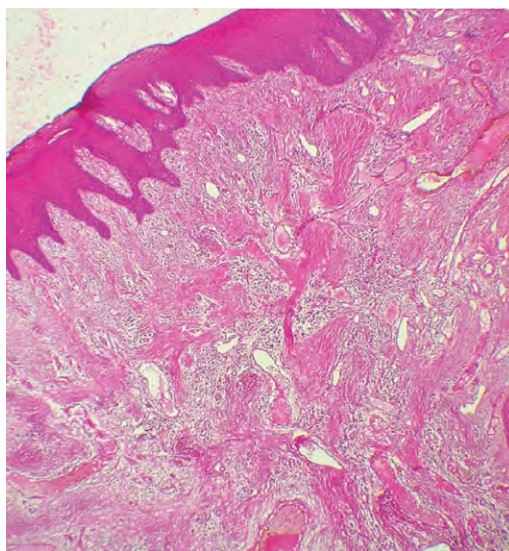


Fig. 1. Fibro-epithelial polyp (H&E stain, 4X). The sections show polypoid lesion composed of fibro connective tissue core with thin wall congested blood vessels lined by thick stratified squamous epithelium

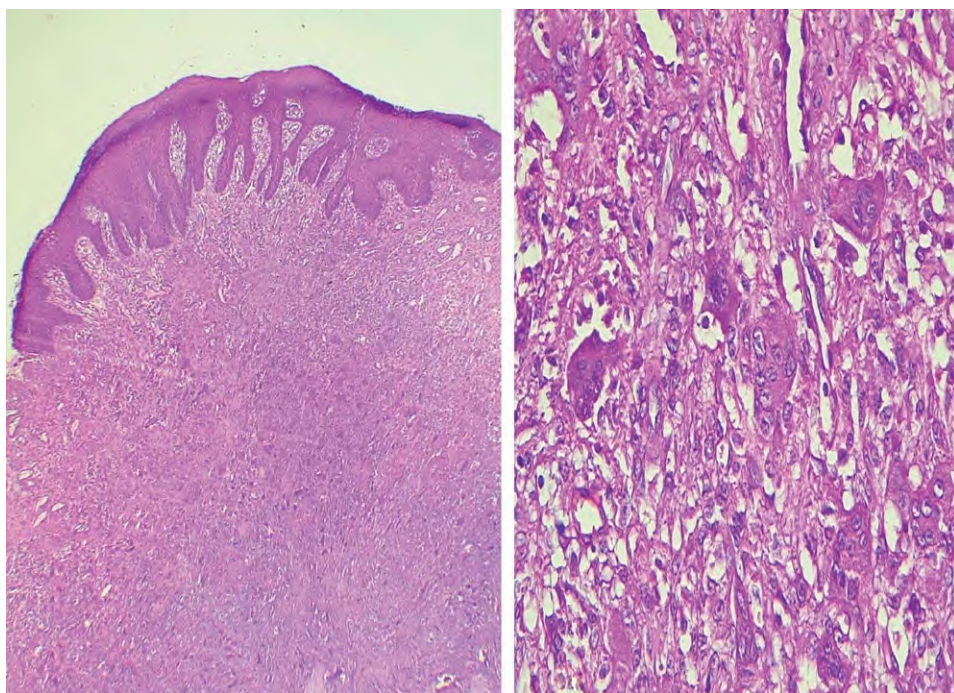


Fig. 2. Peripheral Giant Cell Granuloma (H&E, 4X, 40X). The sections of tissue reveal submucosal proliferation of numerous osteoclasts like giant cells embedded in fibro angiomatous stroma

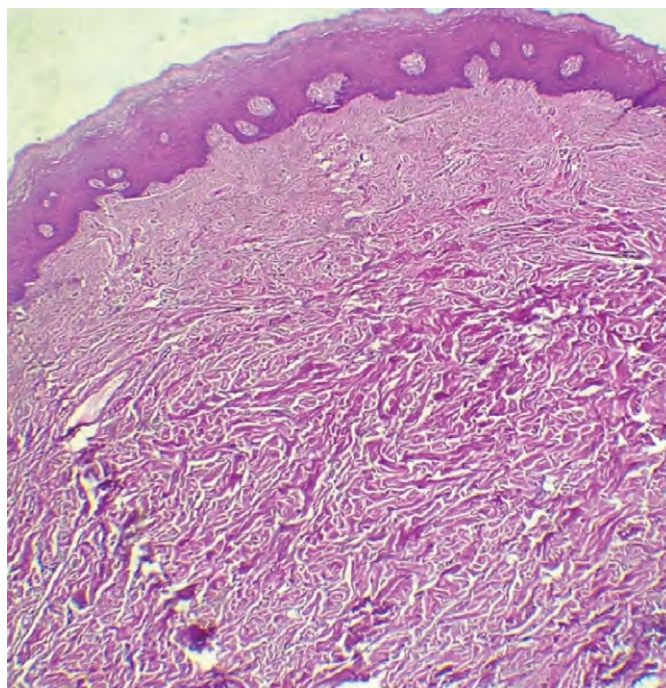


Fig. 3. Irritation Fibroma (H&E stain, 4X), the sections of tissue show proliferation of dense fibrous connective tissue with variable blood vessels and mild chronic inflammatory cells infiltration lined by stratified squamous epithelium

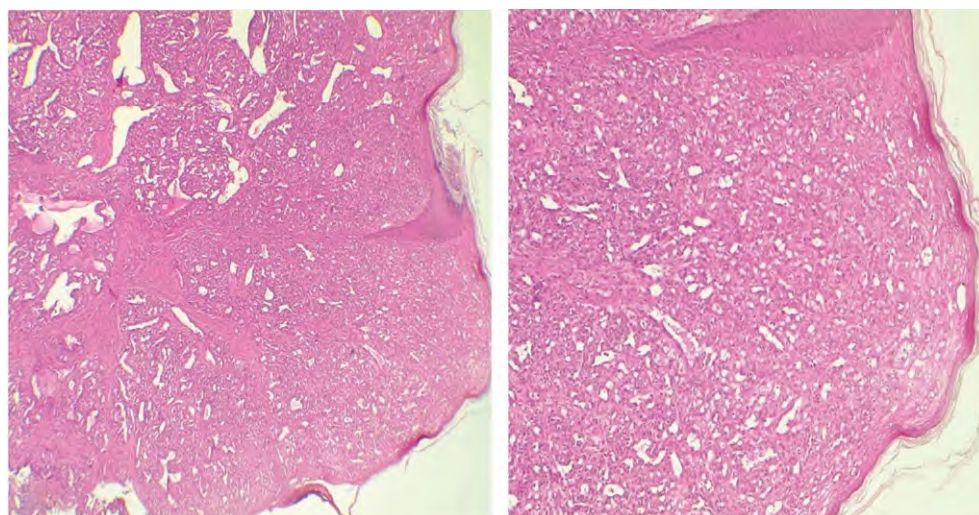


Fig. 4. Pyogenic granuloma (H&E stain, 4X, 10X), the sections of tissue show vascular lesion with small capillaries arranged in a lobular fashion with mixed inflammatory cells

■ DISCUSSION

Oral reactive lesions include a wide range of clinical disorders that are characterised by aberrant tissue development in response to different stimuli [2].

The high proportion of females in the study population (64.7%) as shown in table 1, is consistent with previous research conducted by [1, 2, 5]. This susceptibility can be attributed to a range of factors, including hormonal influences, oral hygiene practices, and socioeconomic status. This discovery contradicts some research, such as the one conducted by [6], which found a more equal or even biased distribution towards men in specific age groups.

The average age of the participants in this research was 39.59 ± 17.23 years, as presented in table 2. There was a greater occurrence of masses among those aged 20–39 years, with a prevalence of 41.2%. These results align with previous studies conducted by [2, 6, 7]. In contrast, other research [8] found that oral masses are more common in older age groups, especially among individuals over 60 years old.

Pyogenic granuloma was the most often diagnosed mass in our research, representing 47.1% of all cases as in table 3. These findings are similar to those made by [2, 9]. In our study, irritation fibroma was the second most observed mass, with a frequency of 25.5%. This finding is consistent with the research conducted by [2], who reported that irritation fibroma accounted for 20% of the reactive masses. In contrast to the results of [10] research, fibroma was identified as the most common mass.

In our research, the occurrence of fibroepithelial polyp was 13.7%, and the occurrence of peripheral giant cell granuloma was 9.8%. These results align with previous investigations, such as [11]. The variation in the incidence of other masses suggest that there may be geographical or demographic disparities in the distribution of oral masses.

Table 4 shows that the high prevalence of masses on the gingiva (39.3%) aligns with existing literatures, which often reports the gingiva as the most frequently afflicted area [2, 7]. According to [6], the presence of these abnormalities in the gums suggests that reactive abnormalities come from the periodontal ligament and connective tissue. In addition, this might be attributed to the propensity of the area between the teeth to accumulate bacterial plaque and food particles, leading to persistent irritation of the gums [12].

■ CONCLUSIONS

The higher proportion of females with reactive oral lesions compared to males, with the majority falling within the 20–39 age group. The most common type of diagnosis is pyogenic granuloma, followed by irritation fibroma, fibroepithelial polyps, peripheral giant cell granuloma, and peripheral ossifying fibroma. The gingiva is the most common site for masses, while the palate had the lowest percentage of masses.

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