Oral soft and hard tissue alterations among Iraqi elderly patients

Abstract:

This study determined the prevalence of oral soft and hard tissue alterations. The associated factors among Iraqi people were collected through a structured questionnaire, a review of their medical records and an intra-oral examination. A sample of 70 individuals 60 years of age were randomly selected. In total, 70 alterations cases were diagnosed; 32 case were normal variation and 38 cases were soft and hard tissue lesion. Total male 54(77.1%) and total female16 (22,9%). Total subjects with systemic disease 38(51.4%) and without systemic disease 34 (48.6%). Patient taking medications 34(48.6%) and without medications intake 36(51.4%). There was a high prevalence of variations of the normal oral mucosa and of mucosal lesions among the Iraqi patients.

Keywords: oral mucosa, hard tissue, Aging; dental clinics.

Introduction

There is a growing interest in the oral health status of the elderly, as the size of this population is increasing worldwide. In dentistry, there is an increasing emphasis on maintaining oral health into the old age, when alterations in oral tissues are associated with various conditions [1].

Although the prevalence of oral soft and hard tissue disease has been found to be higher in older subjects, age is not considered to be the only factor correlated with oral soft and hard tissue disorders. Other factors, such as trauma, systemic diseases, the presence of medications and oral and denture hygiene, may also influence the development of oral soft and hard tissue diseases. The investigation of denture-induced lesions in the elderly Iraqi population is important because this age stratum had a high prevalence of edentulousness as a result of the precariousness of the government's provision of services, the predominance pattern of the curative oral health care, largely within the private practice domain, coupled to an extremely unreliable intervention of the State over time [2].

Epidemiologic prevalence studies primarily "describe the amount of disorder existing in a population at a particular time". Basic information of this kind can "provide guidance in the administration of health services, it may be used to explain local disease occurrence and eventually con- tribute toward the
The prevalence of oral soft and hard alterations among ."understanding of the natural history of a disease Iraqi people was previously demonstrated mainly by international studies. In iraq, such data were obtained localized study involving a multiple institutions[3] or by recording the presence or absence of through a lesions[4]. The present cross-sectional study investigated the prevalence of oral soft and hard tissue alterations and associated factors in a iraq population. Our present study aim is determine the oral soft and hard tissue alteration among elderly patients with systemic disease.

Material and Methods

Present observation study was conducted between 17 October 2023 to march 2024

Sample

The target population was composed of 70 individuals elderly who were present at 40 dental clinic in Babylon city , Iraq, 25 of them were collected from Baghdad institutions and 10 of which were private people. Those who were terminally ill and individuals who did not permit the clinical examination or did not contribute to the interview due to aggression or behavioral alterations were excluded from the study. Individuals with cognitive impairment, as evaluated by the Mini-Mental Screening Exam, were also excluded if socio-demographic records were not available.

The sample size of 70 case ≥60 years was generated using the formula of estimation of proportions.

Sample selection was carried out using proportional, stratified, random samples, considering stratifications[5] in the following order: age and sex and systemic diseases, medication intake and normal variation and lesion .The proportional size of each segment of the population was maintained among samples. At each institution, the people ≥ 60 years were randomly selected.

The ethics committee at the faculty of dentistry/university of Babylon approved this research.

Data collection

The variables of age, sex, systemic disease and medication intake, and normal variation and soft and hard tissue lesion were collected through an interview and institutional and medical records. The examination was carried out by only 4 trained examiner, and the records were collected by an undergraduate last stage dental student.

Denture wearers was recorded according to the World Health Organization (WHO) guidelines.10 Soft and hard tissue examination was undertaken using two- plane mouth-mirrors and gauze compresses under artificial light (a spotlight), with the elderly patients in portable dentist chairs, wheelchairs or in a bed. When present, a partial or full prostheses was removed before the examination. The diagnosis of oral mucosal alterations was made based on the clinical features according to the WHO. [6] The Axel definitions were used for alterations without published WHO diagnosis criteria.[7]Additionally, a color atlas was used to aid in the positive identification of lesions during data collection.[8] No biopsies, cytology or other tests were included in these results. Lesions were considered to be denture-related if they were situated on the oral mucosa covered by the removable prostheses and if there was no other obvious explanation.

Our present study, a distinction was made between the oral conditions arising from pathologic processes with a specific etiology, treatment requirement or prognosis, which were classified as lesions, and conditions that, even with a well-established pathogenesis, presented no health impairment, required no treatment, and had been described in many texts as common and not hazardous to oral health[9]. In the present study, such alteration were classified as variations of normal. Patients with oral soft and hard lesions were referred to the dental school at the Babylon University of Iraq.

Data analysis

All statistical analysis are calculated by using SPSS version 26 software[10].
Continuous data were expressed as means ±SD . Categorical variables are presented as absolute numbers and percentages. Categorical variables were analyzed with Pearson's chi-squared test. P value of ≤ 0.05 was considered significant[11].

Results

A total of 70 ≥ 60 years patients participated. However, 32 of these alterations (0.428%)were considered variations of normal mucosa., and the most frequent were sublingual varicosities 14(19.7%) and fissure tongue 12(16.9%).

Table 1 - Prevalence of oral soft and hard tissue alterations among the institutionalized elderly. In Iraq

Oral soft and hard tissue alterations	Frequency	percent
Lesions		
• Attrition	4	5.7%
• Aphthous ulcer	2	2.9%
• Lichen planus	2	2.9%
• Leukoplakia	2	2.9%
• Hairy tongue	4	5.7%
• Geographic tongue	2	2.9%
• Ranula	2	2.9%
• Herpes zoster	2	2.9%
• Traumatic ulcer (bite)	4	5.7%
• Fibroma	2	2.9%
• Smoker melanosis	4	5.7%
• Angular cheilities	4	5.7%
• Mucocele	2	2.9%
• No	34	48.6%
• Total	70	100%
• **Normal variation**		
• Fordyce granule	2	2.9%
• Lingual varicosities	14	20.0 %
• Fissurer tongue	12	17.1 %
• Torous palatinus	4	5.7%
• No	38	54.3 %
• Total	70	100 %

Table 2 - Distribution of the elderly in terms of age group, sex, systemic disease, medication intake and variation in the prevalence of oral soft and hard lesions according to these variables. In Iraq

Variables	Oral mucosal lesions		p value
	Presence	Absence	
Age group			
• 60 to 69 years	38(95%)	26(86.7%)	0.031
• 70 to 79 years	0 (0.0%)	4 (13.3%)	
• ≥ 80 years	2 (5.0%)	0 (0.0%)	
Sex			
• Male	30 (75.0%)	24 (80.0%)	0.622
• Female	10 (25.0%)	6 (20.0%)	
Systemic disease			
• Yes	20 (50.0%)	16 (53.3%)	0.782
• No	20 (50.0%)	14 (46.7%)	
Medication			
• Yes	20 (50.0%)	14 (46.7%)	0.782
• No	20 (50.0%)	16 (53.3%)	
Smoking			
• Yes	16 (40.0%)	2(6.7%)	0.002
• No	24 (60.0%)	28 (93.3%)	

Table- 2 / it was showing male group shows high Percentage (75% and 80%) and Presence and absence oral hard and soft tissue lesion respectively with no significant association (P Value=0.622)

patient had non smoking show high percentage (60%and 93.3%) in Presence and absence of oral hard and soft tissue lesion but with significant association (P Value = 0. 002)

There are non significant association (P value = 0.782)in drug group with equal percentage (50%) in presence of oral hard and mucosal lesion, However among Systemic disease patients also show non significant association(P value 0.782） with equal percentage （50% ） in Presence of oral hard and mucosal lesion.

In age group comparison there are significant association (P value 0.031) between age groups with higher percentage 95% in age group 60-69 years.

Discussion

A total of 70 ≥ 60 years patients participated (male 54 cases and female 16). This is the study made in iraq about oral soft and hard tissue alterations among elderly people. We found that the most common normal variations were sublingual varicosity 14 (20%) and Fissure tongue 12(17.1%).Also we found that (Attrition, Hairy tongue, traumatic ulcer, smoker melanosis, angular cheilitis) are the most common lesion with the same percentage 4(5.7%).These result similar to between November 2006 and June 2008 , another study made in Belo Horizonte, Brazil, conducte in this study the most frequent were sublingual varicosities 173(51.5%), fissure tongue 150(47.8%), Attrition 51(15.7%), angular cheilitis 19(5.1%)[13].

In our study we found that oral lesion with higher percentage 95% in age group 60-69 years.This study similar to other by Dundar and Ilhan kal about conditions and risk factors among elderly in

Turkish school of dentistry, the incidence of oral lesion was higher in 60-67 years than other age groups[14].

In our study there is no significant association between sex and Oral soft and hard tissue lesion [Table2] .lesions were predominantly seen in males more than females may be attributed to the higher prevalence of smoking and/or tobacco smoking in men and females oral hygiene are better than men. We found that oral lesions have higher percentage in patients with systemic disease and medication intake similar to another study concerning the occurrence and distribution of systemic diseases, a study in Brazil showed that 24.6% participants were hypertensive, 15% diabetic. The prevalence of drugs intake was 22.2% for antihypertensive drug use, 6.7% diuretics, 3.9% hypoglycemic. [15]

In our study the smoking habits have significant association with oral soft and hard tissue lesion[table 2],and among smokers patients found that the most common lesions were smoker melanosis 4(5.7%) and the the second most common lesions were leukoplakia 2(2.9).other study done in China within a period of one year from January 2013 to December 2013 demostrate the same result that Among oral mucosal lesions found in smokers, Smoker's melanosis was the most frequently encountered lesion and consistent with the findings of Saraswathi et al., and Hedin et al., [16] and Oral squamous cell carcinoma (OSCC) the least. Smoker's palate and Leukoplakia were the second and third most common lesions.these lesion can be attributed to the presence of Benzopyrene and other polycyclic aromatic carcinogens (PAHs) are the most important carcinogenic agents in cigarette smoke[4].These findings makes tobacco smoking to be the main cause of Smoker's melanosis and this was consistent with the observation made by Saraswathi et al., and Hedin et al., [[17].

Conclusions

most The prevalence of oral soft and hard tissue alterations was very high among elderly in Iraq. prevalent normal variations were sublingual varicosities and Fissure tongue. The most frequent oral lesions were attrition hairy tongue, traumatic ulcer, smoker melanosis and angular cheilitis.

Acknowledgements

This study was supported by the CNPq and the Brazilian Ministry of Health (403244/2004-8). The authors would like to thank the assistance rendered by the Office of the Public Prosecutor for individu- als with physical deficiency and of the elderly. RC Ferreira is supported by the Minas Gerais Research Foundation (Fundação de Amparo à Pesquisa do Estado de Minas Gerais) (grant for Research and Technological Development Incentive Grant).

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