

## Prevalence of oral soft tissue lesions in an elderly venezuelan population

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### Abstract

**Aim:** The purpose of the present study was to determine the prevalence of the oral soft tissue lesions in patients referred to the geriatric unit “Dr. Joaquin Quintero”, National Institute of Gerontology.

**Study Design:** 340 patients were clinically evaluated, of these 266 were institutionalized and 74 were seen at the outpatient clinic, age ranging 60 to 104 years. 212 were females and 128 males. The statistical analysis was done using the SPSS software (11.0) to a significant level of 5% ( $p < 0.05$ ).

**Results:** Fifty seven percent of the studied population presented one or more oral lesions, associated to prosthetic use, trauma and tobacco consumption. Females were more affected than males. The lesions were more frequently observed between 60 to 74 years of the institutionalized group of patients of these, 34% exhibited only one oral lesion. Few cases presented up to 4 oral lesions. The most common alterations observed were: denture stomatitis, oral leukoplakia, hemangioma, oral melanotic macule, traumatic fibroma, inflammatory fibrous hyperplasia and angular cheilitis.

**Conclusions:** The findings observed in this population are important to be considered when clinically evaluating oral soft tissue in elderly. Close follow up and systematic evaluation is required in this population.

**Key words:** Epidemiology, oral mucosa lesions, prevalence, gerodontology.

### Introduction

The WHO (1984) had established that a population aging more than 60 years old should be considered, elderly population(1). The last national census of population and residency conducted in Venezuela during 2001, showed that 7.7% were 60 or more years, and life expectancy for this group on 2025 will represent 12% of the total population(2). These figures should be considered in the elderly health care.

In spite of these demographic changes, the research in the gerodontology area has been scarce. The oral lesions and treatment needs in the geriatric patient greatly vary according to each country, region and even in hospitalized,

institutionalized and community patients. Therefore, the relevance of the present study is due to socioeconomic, medical and dental background of each individual, treatment costs, dental care, mental or physical handicap and socioeconomic differences(3,4).

Only limited information on oral mucosal alterations or conditions in elderly Venezuelan patients is available, however few isolated studies in prevalent pathologies have been reported(5-7). On the other hand, the prevalence of oral lesions in the major adult has been documented in Colombia(3), Mexico(4,8-10), Brasil(11,12), Chile(13), España(14,15), Argentina(16), USA(17,18), Israel(19) and other Asian countries(20-22), mainly based on clinical

evaluation of the lesions, in contrast, Correa et al (2006) (12) and Dehler et al (2003) (17) conducted a prevalence study based on the clinicopathological correlation, evaluating the biopsies of the observed lesions.

According to different investigations, is a common finding to observe oral pluripathology in the elderly. This could be explained due to the systemic complexity involvement in these patients, aging process, metabolic changes, nutritional factors, medications, prosthetic use, psychobiological habits and alcohol or tobacco use; therefore, several conditions should be encounter in this particular age group(23); these include neoplasms, infections, immunological, hematological and systemic disorders, leading to oral pain and discomfort in the major adult patient(24).

**Material**

**Studied subjects:** The studied population is comprised of institutionalized patients at the geriatric unit “Dr. Joaquín Quintero-Quintero” and those attending the outpatient facility at the dental service of the unit, during August-October (2004).

The institutionalized population consisted 280 patients,

of these 266 signed the written consent to participate in the investigation and accept to be clinically evaluated by oral examination and to fulfill the inclusion criteria. All elderly patients that could not be present at the clinic that day or that not allow the clinical oral exam were excluded. Finally, the study was conducted on 340 patients, 266 institutionalized and 74 non-institutionalized patients older than 60 years.

**Methods**

**Study type:** The present investigation was exploratory considering that the topic has not been studied before in Venezuela. It is descriptive, since the oral soft tissue lesions need to be identify, directed to a specific group (elderly), evaluating independently the variables or in group. It is transversal due to that a particular situation or disease is evaluated in a specific moment.

**Clinical examination:** Each patient was evaluated using a designed chart and was clinically examined. The clinical diagnosis was established according to the correlation in the etiological factor associated to the lesion by systematic examination of oral mucosa and classifying those altera-

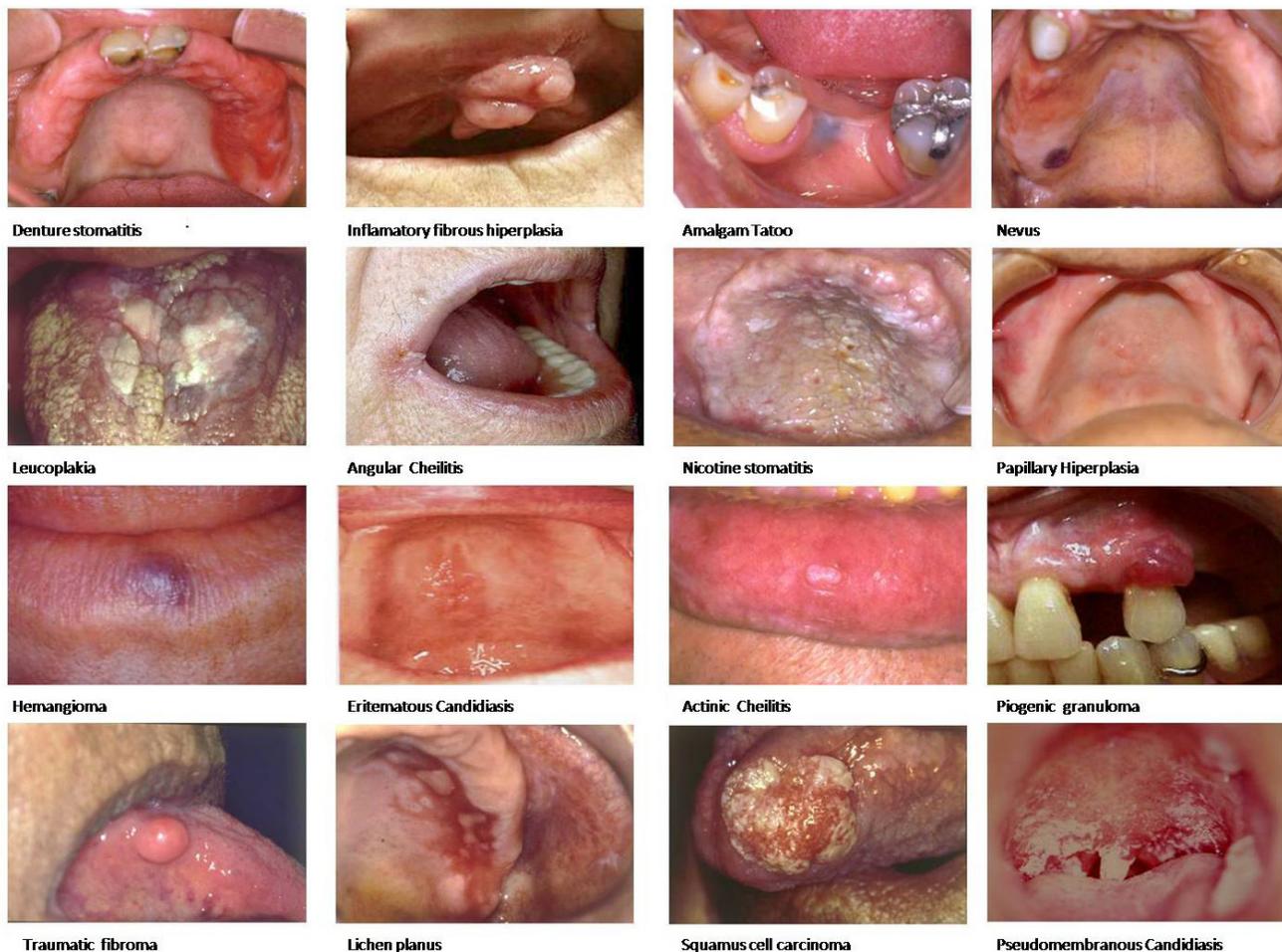


Fig. 1. Prevalence of injuries according to their clinical appearance.

tions according to the Epidemiology guide for the diagnosis of oral mucosal diseases (WHO) (25). In addition, in those cases requiring further examination, biopsies or cytology were performed to establish an accurate definite diagnosis.

The elements to evaluate during the questionnaire included: general status of the patient, systemic diseases, medications used, age, gender, alcohol and tobacco consumption, habits (trauma) and prosthetic or other appliances use.

During the clinical examination the following elements were analyzed: features of the lesion, anatomical location, extension, etiological factors or related factors, dental status, alcohol, tobacco, trauma, use of prosthesis and if these were well adapted .

All non pathological conditions or developmental such as, leucoedema, lingual varices, Fordyce granules, benign migratory glossitis and fissured tongue were excluded from the present study.

Statistical analysis: The variables analyzed on 340 patients, included the oral soft tissue lesions evaluated in geriatric patients attending the dental facilities at geriatric unit "Dr. Joaquin Quintero-Quintero". The results were analyzed using the SPSS software (11.0), by a descriptive analyses of each variable studied.

## Results

340 patients were evaluated, of these, 194 (57%) presented oral lesions. Females were more affected (62%), being the institutionalized group of patients the one exhibiting more incidence of oral soft tissue lesions. In the majority of the cases, only one lesion was found (34%), however, some patients exhibited more than one oral lesion simultaneously. The majority of the oral lesions were observed in patients age ranging 60 to 74 years.

306 lesions were diagnosed in those 194 patients. These were classified according to clinical, histopathological and microbiological diagnosis and were distributed in 24 different clinical entities (Table 1)). The more prevalent pathologies were inflammatory, reactive, associated to long use of prostheses or not well adapted, since a 67% of the patients with lesions were using prostheses, followed by oral premalignant or malignant lesions associated to tobacco use (Figure 1).

## Discussion

Where comparing the present investigation results with similar epidemiological studies, the prevalence figures of oral lesions in 194 aged patients, of 57% is similar to previous reports by Espinoza et al (2003)(13) with a 53%. However, these results differed from studies from Mexico reported by Mosqueda- Taylor et al (1998)(8) with a 95% of oral lesions. However, it is relevant to consider that in this latter study, no distinction between pathological and non pathological conditions was done, suggesting that

**Table 1.** Prevalence of oral soft tissues lesions in elderly according to clinical presuntive diagnosis.

Oral lesions	N	%
<b>Inflammatory lesions</b>		
Denture stomatitis	54	18%
Angular Cheilitis	18	5%
Eritematous Candidiasis	12	4%
Papillary Hiperplasia	4	1%
<b>Reactive lesions</b>		
Traumatic fibroma	23	7%
Inflammatory fibrous hiperplasia	22	7%
Traumatic Ulcer	9	3%
Piogenic granuloma	4	1%
<b>Premalignant and malignant lesions</b>		
Leucoplakia	42	13%
Lichen planus	9	3%
Nicotine stomatitis	7	2%
Actinic Cheilitis	6	2%
Squamus cell carcinoma	6	2%
<b>Pigmented lesions</b>		
Hemangioma	32	11%
Melanotic macule	25	8%
Amalgam Tatoo	8	3%
Nevus	5	2%
<b>Infections Lesions</b>		
Sialoadenitis	5	2%
Median rhomboid glositis	5	2%
Afthous Ulcers	3	1%
Recurrent Herpes	3	1%
Papiloma	2	1%
Pseudomembranous Candidiasis	1	0,50%
<b>Lesions associated to medication</b>		
Ginigival overgrowt hiperplasia	1	0,50%
<b>Total</b>	<b>306</b>	<b>100%</b>

these prevalence figures are higher due to the inclusions of both entities. On the other hand, Gonzalez et al (1995) (4) in Mexico, demonstrated a prevalence of 23,2%. Other series reported in Spain, documented a 39% of aged patients presenting oral mucosa alterations (14). Similar results have been shown in different studies; these variations could be explained due to the different methodologies used (10,11,16-22). Interestingly, it should be highlighted that in the majority of the studies, the prevalent lesions are concordant, mainly associated to adaptative changes on

the mucosa due to mechanical and chemical irritation, not well adapted prostheses, tobacco use, and in lesser degree other lesions related to systemic diseases and precancerous conditions.

The use of prostheses or their status could determine the number of oral lesions present in these individuals (14). In the present study 34% of patients exhibited one lesion, 16% presented two lesions, 5% had three lesions and finally 2% had four or more lesions, similar results have been described by Jorge et al and Corbet et al (11, 20). The age, gender, educational level, socioeconomic, cultural, smoking, medication used, systemic diseases are factors that could predispose the presence of oral lesions, however Espinoza et al (13) stated that the use of non adapted prostheses should be considered as a relevant factor influencing the presence of oral pathologies, explaining that in some evaluated aged populations where the use of prosthesis is low or scarce the observance of pathologies is relatively low (26). This fact could be evidenced in the present investigation where the lesions associated to non adapted prosthesis corresponded to 43% of the total lesions, in accordance to previous reports from Hoad-Reddick (1989) (26) and Corbet et al (1994) (20) of 41% and 31% respectively. Of the lesions related to prosthesis use, denture stomatitis was the most common one representing 54 cases (18%), in agreement with previous studies (3, 11, 13, 20, 26, 27). In general the denture stomatitis prevalence varies between 20-67% depending of the studied population, mucosa supported prostheses status or dental supported status, time of use, relapsing time, but only a 10% of the patients referred discomfort (3,25,28).

The age range with the higher incidence of lesions was between the sixth and seventh decade of life (60 – 74 years), of 159 lesions representing a (52%), similar to Gonzalez et al observations (4). On the other hand, Mosqueda et al (8), extended the affected age range between 56 to 86 in their study, in agreement with the present investigation where 75-84 age was the second more affected with 27% of oral conditions. This could be explained due to the prosthesis use in a poor condition or deficient oral hygiene, or the higher risk to develop one or more chronic diseases manifesting in the oral cavity.

According to gender distribution, the majority of the studies have not demonstrated differences in the prevalence of the lesions (11, 13, 20). However, Mosqueda et al (8) reported a female preponderance similar to Gonzalez et al (4) in 67% of their cases, in accordance with the present work with 67% of the oral lesions in the female group.

## Conclusions

The increased number of aged individuals implies an important demographic change worldwide. Therefore, it is important to plan accordingly in the social, economic and health.

Oral health is an important factor determining the quality of life in aged individuals. The role of the dentist and stomatologist includes the management of systemic, nutritional and pharmacological oral manifestations in order to establish an early diagnosis and subsequently an accurate treatment.

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