

PREVALENCE OF ORAL LESIONS MODULATED BY PATIENT'S AGE: THE YOUNG VERSUS THE ELDERLY

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ABSTRACT: The aim of this study was to compare the prevalence of oral lesions and conditions in young and elderly population. The authors analyzed a number of 1324 patients, treated in our clinic, between 2011-2017, divided into 4 subgroups. Prevalence of one or several oral lesions was of 51,29% patients. We identified a wide range of oral heterogeneous lesions, the first place being held by burning mouth syndrome and chronic candidiasis in the elderly, and by aphtous stomatitis and acute candidiasis in the young. The results of our study may provide important information on the types and incidence of oral mucosal lesions in the northern region of Romania and seems to be similar to the level predicted for young and elderly patients in our country.

Key words: oral mucosa lesions, prevalence, oral health

INTRODUCTION: Oral mucosa may be affected by various lesions and conditions, some of them being harmless, while others could have severe complications (1). Identification and treatment of these pathologies is an important part of oral care, and this is the reason why correct examination of oral tissue is vital. In the literature in the field, the studies on the incidence of oral lesions lack data, especially when it comes to comparative analysis by age groups. Childhood and then adolescence are transition periods to maturity. Development of new food habits, smoking, alcohol, tics (unknown to children), or even some systemic conditions may lead to lesions of oral mucosa in the young.

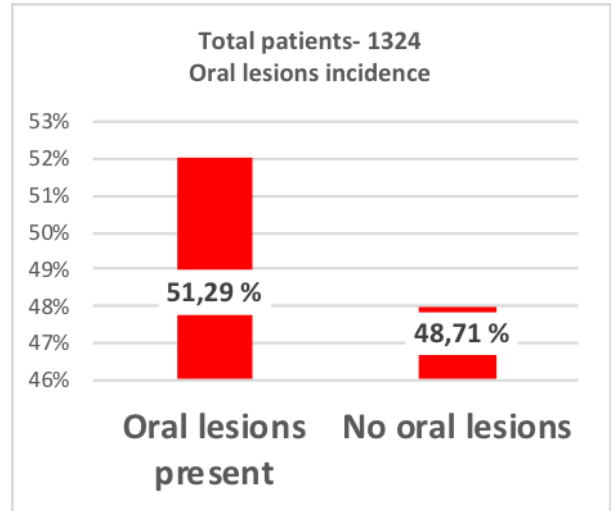
MATERIAL AND METHOD: Studies on prevalence of oral lesions may provide important information on the state of oral health and treatment needs for a segment of population. There are different studies on

the prevalence of the most common types of oral lesions in different regions of the world (2, 3, 4, 5, 6, 7, 8, 9, 10). The prevalence of these lesions in general population was reported in 15.5% of population in Turkey (11, 12), 19.4% in Iran (13), 25% in Italy (14), and 61.6% in Slovenia (15). In Saudi Arabia (16), these lesions were found in 15% of the population, and in 41.2% of the Indian patients (2, 6). There is only one study on the frequency and type of oral mucous membrane lesions in the North-East of Romania (8), which motivated us to carry out our study. Consequently, this study reviewed retrospectively 1324 cases treated at the Oral Medicine Service of the Oral and Maxillofacial Clinic (Outpatient) in Iași, between 1.01.2011 - 31.12.2017 (last 6 years). All initial oral consultations were provided by two experts in oral medicine. The diagnosis was made using a specific protocol based on a specific interview, and differentiated by disease group.

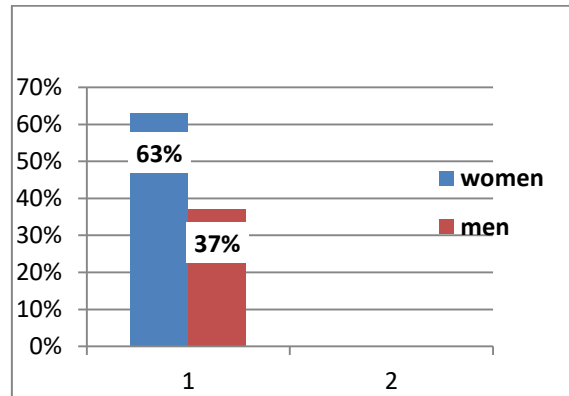
RESULTS AND DISCUSSIONS: In total, 1324 patients were examined between January 2011- December 2017. Most patients (53%) were referred to family doctors, 28 % to consultants (16 % ENT-ists, 10 % to dermatologists, 2 % infectionists) and only 19 % to dentists. 643 of cases have been eliminated due to other pathologies or inadequate data.

Of studied patients, 679 (51,29%) had oral lesions (graphic1). Women represented 63% (n = 428) and men 37% (n = 251) (graph 2). The age of patients ranged between 10 and 84 years. Of total group, the most affected group was between 60 and 69 years (20%), followed by 70 - 80 (19%), 50 - 59 (16%), 40-49 years (13,5%), 30-39 years (13,5%) and the less were the younger:20-29 years (10%), 10-20 years (6 %) (graph 3).

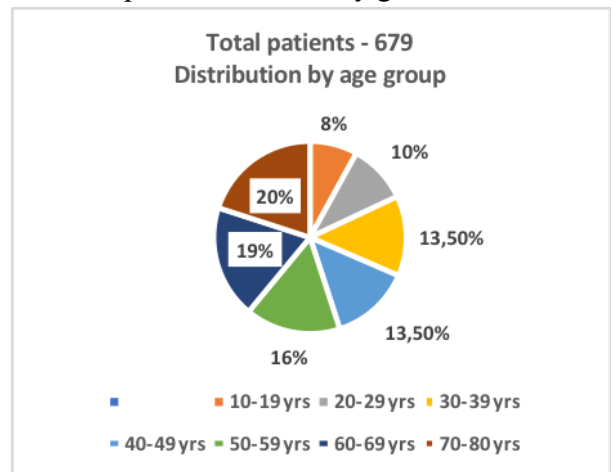
The range of discovered oral lesions included: burning mouth syndrome 23.7%, traumatic ulcerations 17.2%, recurrent aphtous stomatitis 12.5%, herpes simplex virus infections 8.3%, lichen planus 8.3 %, candidiasis 7.18%, allergic stomatitis 4.3%, frictional keratosis 3.8%, morsicatio buccarum 3.8%, actinic cheilitis 3,4%, geographic tongue 2.3%, acute ulcerative gingivitis 1.7%, leukoplakia 1.5%, bullous dermatosis 1.02%, erythema multiforme 1.02%, hairy tongue 0.8% (graph 4).



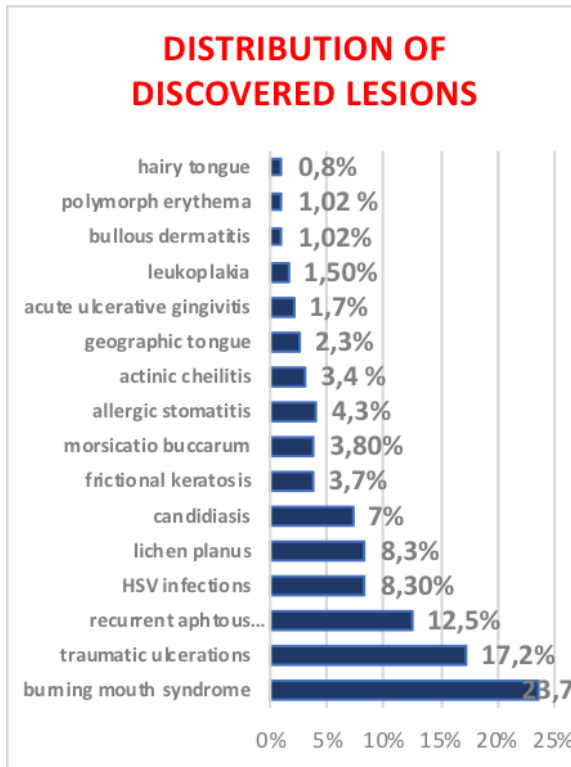
Graph1



Graph 2. Distribution by gender



Graph 3



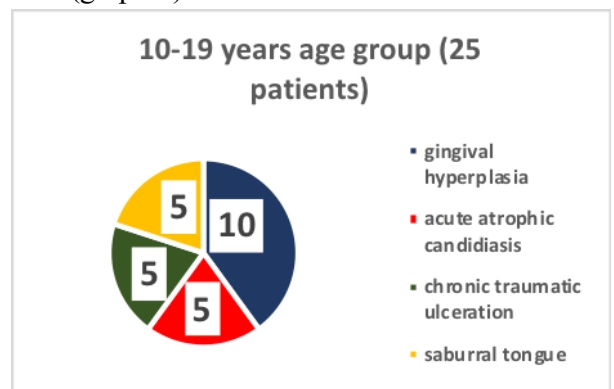
Graph 4

In what follows, we have analyzed the incidence by age group for each type of discovered lesion as to reach comparative conclusions. Therefore, the discovered prevalence in the young versus the elderly is shown below:

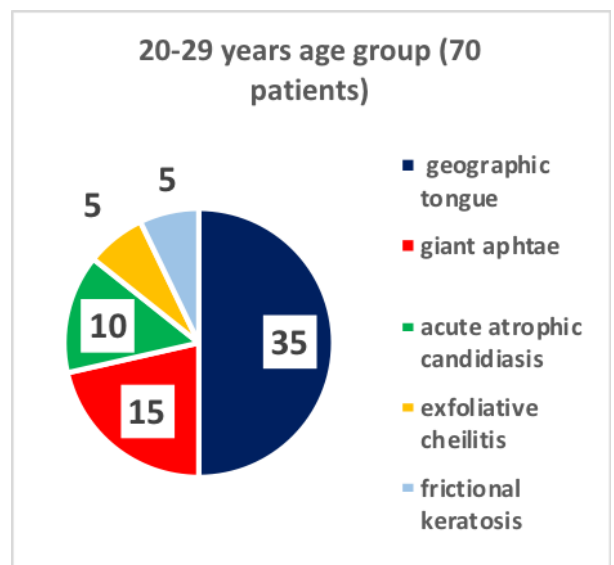
- 10-19 years age group (25 patients):** gingival hyperplasia - 10 patients, acute atrophic candidiasis - 5 patients, chronic traumatic ulceration - 5 patients, saburral tongue - 5 patients (graph 5)
- 20-29 years age group (70 patients):** geographic tongue - 35 patients, giant aphtae - 15 patients, acute atrophic candidiasis - 10 patients, exfoliative cheilitis - 5 patients, frictional keratosis - 5 patients (graph 6)
- 60-69 years age group (190 patients):** burning mouth syndrome - 80 patients, chronic candidiasis - 35 patients, gingival epithelial

conjunctival hyperplasia - 30 patients, reticulated lichen planus - 15 patients, chronic ulcers - 10 patients, leukoplakia - 5 patients, aphtae - 5 patients, discoid lupus erythematosus - 5 patients, angular cheilitis - 5 patients (graph 7)

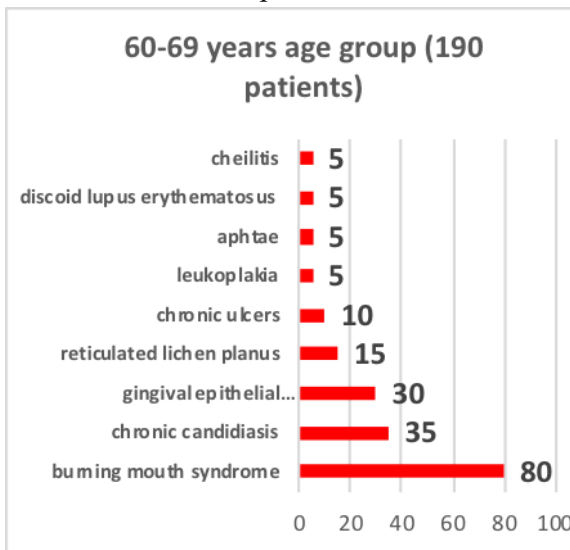
- 70-80 years age group (154 patients):** burning mouth syndrome - 55 patients, epithelial conjunctival hyperplasia - 20 patients, atrophic chronic candidiasis - 20 patients, giant aphtae - 12 patients, geographic tongue - 12 patients, labial herpes - 10 patients, chronic ulcers - 10 patients, lichen planus - 5 patients, allergic stomatitis - 5 patients, angular cheilitis - 5 patients (graph 8).



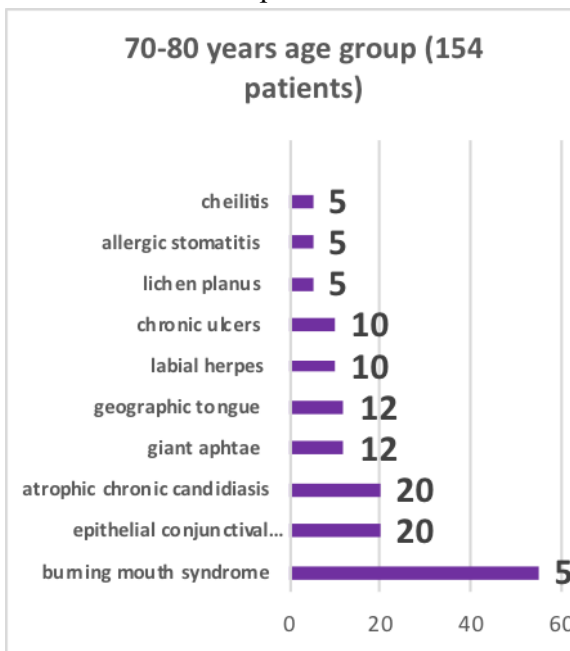
Graph 5



Graph 6



Graph 7



Graph 8

DISCUSSION: Lesions of oral mucosa are a significant health problem with considerable morbidity. Despite its importance, there are few reported cases of its prevalence in Romania (8, 9) located in different parts of the country. In our study, the incidence of oral injuries was 51.29%, comparable to the results of studies in Slovenia (61.6%) (15), Spain (58.8%) (5), and Saudi Arabia (58.1%)(7) Prevalence of oral lesions in Italy (81.3%) (4) is much higher than what we have reported here, but

in some studies the reported prevalence was lower - Turkey (12), or considerably lower - Iran (13). Our data showed a greater incidence of oral mucosal lesions in women (65%), from middle-aged to the elderly (39%). However, in some studies (16,13), their incidence was found to be higher in adults and younger men (7). The most common mucosal lesion among our patients was burning mouth syndrome (19%). This finding is consistent with the study of Tovu et al (9), Popa et al (8), and Villa et al (10). Traumatic ulceration (14%) was the second most frequent lesion of soft tissue in this study, and the most common lesions in terms of loss of substance, followed by recurrent oral herpes, and recurrent aphtous ulcerations. Concerning lesions with possible malignant transformation, the first (the sixth in the study) was lichen planus with 9%, lower than the result reported by Tovu et al (9) (12.3%) and Villa et al (10) (10.2%), but higher than the incidence of lichen planus in the Belorussian population (2.3%) (15). Leucoplakia was observed in only 2% of patients in our study, which is considerably lower than in other studies (Mehrota et al., 40.7% (16), Campisi and Margiotta 13.8% (4), Villa et of 6, 3% (10), but it was in the estimated range of 1% to 5% for the general population. The lesions of the tongue had a considerable proportion among the oral mucosal lesions with different prevalence rates in different parts of the world (3,8,12,15,17).

In our study, tongue lesions – geographic, fissured and saburral tongue - were observed in 4% of participants, less than in earlier published studies (7,11,13,18). It was not easy to make comparisons with other studies, mainly due to differences in socio-demographic features, and diagnosis methods and criteria used in the studied population groups.

In 2004, Bessa and Santos (23), in a study conducted at the University Clinical Hospital in Brazil, on a group of 1211 children aged 0-12 years reported the following types of oral lesions: 22% geographical tongue, traumatic lesions due to self-biting 24%, melanotic macula 14%, fissured tongue 8%, recurrent ulcerative stomatitis 5%, pseudomembranous acute candidiasis 8%, labial herpes 5%, angular cheilitis 2%, atrophic candidiasis 3%, primary herpetic gingivostomatitis 1.5%, morsicatio buccarum 1.2%, and exfoliative cheilitis 1%.

In 2017, Amadori and Bardellini(24) in a retrospective study (2008-2017) at Brescia University of Dentistry on a number of 6374 subjects aged between 13 and 18 detected 1544 cases of oral lesions (31%). These included aphtous ulcerations 18%, traumatic ulcerations 14%, herpes simplex virus infections 11%, geographic tongue 9.5%, candidiasis 5.5%, morsicatio buccarum 4.5%, piercing lesions 4%, gingival hyperplasia 2.3%, hairy tongue 2.1%, and smoker's melanosis 1%. In contrast, Espinoza and Rojas(25), in a study conducted at the University of Santiago de Chile, on a group of 889 patients aged over 65, discovered the following types of oral lesions: 23% prosthetic stomatitis, irritative hyperplasia 9.4%, frictional keratosis 6%, solitary pigment lesions 4%, and also multiple pigment lesions 2.8%, traumatic ulceration 3.5%, angular cheilitis 2.9%, lichen planus 2.1%, leukoplakia 1.7%, recurrent aphthous stomatitis 1.4%, nicotinic stomatitis 1.3%, and median rhomboid glossitis 1%. Our study reported the following dominant groups: the YOUNG versus the ELDERLY. In the young (10-19 years, 20-29 years), we found such dominant lesions as: geographic tongue (35 cases), acute atrophic candidiasis (15 cases), giant aphtae (15 cases), and gingival hyperplasia

(10 cases).

In the elderly (over 60 years), the range of lesions changed significantly, and included the following types of dominant lesions: burning mouth syndrome (135 cases), chronic candidiasis (55 cases), epithelial conjunctival hyperplasia (50 cases), giant aphtae (12 cases), geographical tongue (12 cases). We also found it important to establish a correlation between the dominance of certain types of oral lesions and the general health condition of the studied patients. Therefore, in the 60-69 age group, the burning mouth syndrome could be associated with arterial hypertension, recurrent depressive episodes with personality changes and iron deficiency anemia, and erythematous lupus may be linked to the presence of hepatitis C virus. In the 70-80 age group, the burning mouth syndrome could be associated with arterial hypertension, type 2 diabetes, and drug allergies. Labial herpes could be associated with HTA, type 2 diabetes and angina pectoris. Chronic candidiasis was mostly correlated with arterial hypertension and the geographic tongue with iron deficiency anemia.

CONCLUSIONS: Oral mucosal lesions are a significant health problem with considerable morbidity. Despite its importance, there are few reports in Romania on the prevalence of these lesions, and especially on their variation by patient's age. The results of our study may provide important information on the types and incidence of oral mucosal lesions in patients seeking treatment for oral lesions in the medical units located in the northern region of Romania, and could serve as reference data for future studies on the incidence of various lesions in the general population.

The range of oral lesions in the residents

of the north-eastern region of the country seems to be similar to the level predicted for middle-aged and elderly patients in Romania (8,9). This pathology differs from other European countries (12,14,15,17,18, 19), the United States (10), and the Asian countries

(16,2,3,6,7,13). In our study, both in women and men, oral lesions were dominant in mature and elderly age groups. Although the percentages recorded in the groups of children and adolescents were significantly lower, these cannot be totally neglected

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