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Ulcerations of the oral mucosa in the Senegalese old subject

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Abstract

Ulcerations of the oral mucosa are very disabling lesions that can alter the diet with repercussions on the general state. The objective of the study was to assess the prevalence of oral mucosal ulcerations in a population of elderly Senegalese subjects. It was a descriptive cross-sectional study, on 384 Senegalese subjects who came for consultation at the Ouakam geriatric centre in the Dakar region. Oral mucosal ulcerations were observed in 30.42% (n=117) of elderly subjects. They were most commonly described after 70 years of age with a prevalence among housewives with 44.52% (n=65) and shopkeepers with 31.48% (n=17). They were more reported among dental prosthesis wearers with 41.32% (n=100) with preferential location in the vestibule of the mouth 46.15% (n=54) and gum with 26.50% (n=31).

Keywords: Elderly subject, senescence, oral mucosal ulceration

Introduction

The number of people aged 60 and over in the world is increasing steadily with about 600 million. This number will double in 2025 to reach 2 billion in 2050 [1]. The majority of them live in developing countries [1].

Senescence leads to physiological and histological changes in the oral mucosa [1], which then becomes more permeable to toxic substances and more vulnerable.

Indeed, the buccal epithelium is thinned down and associated with a reduction in collagen synthesis, which is at the origin of the decrease in regenerative function and resistance to aggression [1]. This favours the development of lesions such as painful ulcers that hinder nutrition [2], with repercussions on the general state [3]. Ulceration is a loss of substances, affecting the middle and deep dermis, the hypodermis or even the deeper planes [4].

The aim of this study, is to report the prevalence of oral mucosal ulcerations in elderly people seen in geriatric consultations.

Materials and Methods

It was a descriptive cross-sectional study on Senegalese subjects. The study took place at the Ouakam geriatric centre in the Dakar region from March 2018 to the end of May 2018. It concerned all subjects aged 60 and over who came for consultation during this period. Subjects who had received radiotherapy or chemotherapy treatment and those whose physical condition did not allow for a thorough examination of the oral cavity were not included.

Sociodemographic data such as age, sex and occupation were studied. A clinical examination of the oral cavity was performed for each subject by an experienced dental surgeon. The presence of oral mucosal ulcerations as well as their anatomical location and dental status were the variables collected.

The statistical analysis was performed on Epi-info version 6.0, the results were expressed in percentages and effectives.

Results

Of the 384 subjects examined, 54% (n=207) were female, with a sex ratio of 0.84. The average age of the patients was 70.98 years \pm 6, 19 with extremes of 60 and 85 years. A total of 30.42% (n=117) of the sample subject had ulcerations of the oral mucosa. These ulcers were more common in subjects over 70 years of age (Table I). The distribution of ulcers by occupation had shown a higher frequency among housewives and shopkeepers

With 44.52% (n=65) and 31.48% (n=17) respectively (Table II). Ulcerations were more common among denture wearers with 41.32% (n=100) (Table III). Their distribution by type of dental prosthesis shows that they were more common among removable dental prosthesis wearers with 46.93% (n=84) (Table IV). Ulcerations were more localized at the bottom of the buccal vestibule 46.15% (n=54) followed by gum with 26.50% (n=31) (Table V).

Discussion

In this study, the average age of patients was 70.98 ± 6.98 years, 19 with extremes of 60 and 85 years. The study population was dominated by women representing 54%, with a Sex-ratio of 0.84. This same trend is found in the general Senegalese population, where in the elderly group (60 years and over) women represent 51.4% [5]. This could be explained by a longer life expectancy for women, estimated at 65.8 years compared to 63.5 years for men [5].

In addition, in a study conducted in 2015 in Iran by Bakhshi and al. the average age was 66.71 years with 58.1% of men against 41.9% of women [6]. Ulcerations were more common in people between (70.80 years] and (80.90) with 42.34% and 30% respectively for a significant p-value (< 0.05). This could be explained by the fact that, in the context of our developing countries, by the lack of health structures dedicated to the care of the elderly but also by the physiological changes related to senescence [1]. In addition, Al-Mawari and al. reported that in Yemen, oral mucosal ulcerations were more common in subjects over 70 years of age [1]. In contrast, Saintrain and al. reported a lower prevalence in Brazil in their study with 23.7% in the same age group of 70 to 80 years [7].

The distribution of ulcers by occupation shows that housewives and shopkeepers were more affected with 44.52% and 31.48% respectively for a significant p-value (< 0.05). This could be explained by the low level of education, often reported in Senegal in these two groups [5]. Low educational attainment is often associated with a lack of information on the importance of and compliance with oral hygiene rules [1].

Oral mucosal ulcerations were found in 30.47% of subjects. The prevalence of oral mucosal ulcerations varies according to the authors with 57% for Mujica and al [8], 28.24% for Shulman *et al.* [9] and 15% for Al-Mobeeriek and al. [10]. The etiologies of ulcers can be local and/or general [11]. At the local level, these are most often dental or prosthetic injuries [6, 12, 13]. Bakhshi and al. found that 50% of the elderly have at least one traumatic dental ulceration [6].

In the present study, ulcerations were more reported in dental prosthesis wearers (41.32%), of which the most common were removable dental prosthesis in 46.93% and composite prosthesis in 30.77% with significant p-values (< 0.05%). Removable dental prostheses are said to be responsible for ulcerations of the oral mucosa [6, 7].

Ulcerations were more common in the buccal vestibule (46.15%), gingiva (26.50%) and hard palate (15.38%) with a significant p-value (< 0.05). This may be due to the fact that these areas are more exposed to the traumatic effects of removable dental prostheses. Authors have reported that vestibular, gingival and palatal predominance have been reported for ulcers of traumatic origin [7, 11, 14].

Tables and Figures

Table 1: Distribution of ulcers by age group

Ulceration	Age groups (years)			Total N (%)
	60-69 N (%)	70-79 N (%)	80 and over N (%)	
Yes	37 (19,17)	77 (42,34)	3 (30)	117 (30,47)
No	156 (80,83)	104 (57,46)	7 (70)	267 (69,53)
Total	193 (100)	181 (100)	10 (100)	384 (100)

P-value = 0.0000.

Table 2: Distribution of ulcers by occupation

Ulceration	Professions					Total N (%)
	Housewives N (%)	Merchants N (%)	Independents And workers N (%)	Retired people N (%)	Farmers N (%)	
Yes	65 (44,52)	17 (31,48)	14 (19,18)	18 (19,15)	3 (19,15)	117 (30,47)
No	81 (55,48)	37 (68,52)	59 (80,82)	76 (80,85)	76 (80,85)	267 (69,53)
Total	146 (100)	54 (100)	73 (100)	94 (100)	17 (100)	384 (100)

P-value = 0.0073.

Table 3: Distribution of ulcerations according to the wearing of dental prostheses

Ulceration	Wearing a dental prosthesis		Total N (%)
	Yes N (%)	No N (%)	
Yes	100 (41,32)	17 (11,97)	117 (30,47)
No	142 (58,68)	125 (88,03)	267 (69,53)
Total	242 (100)	142 (100)	384 (100)

P-value = 0.0000.

Table 4: Distribution of ulcerations by type of dental prosthesis

Ulceration	Type of dental prosthesis				Total N (%)
	No prosthesis N (%)	Removable N (%)	Fixed 1111 N (%)	Combined N (%)	
Yes	19 (13, 38)	84 (46,93)	10 (20)	4 (30,77)	11 (30,47)
No	123 (86,62)	95 (53,07)	40 (80)	9 (69,23)	2 (69,53)
Total	142 (100)	179 (100)	50 (100)	13 (100)	38 (100)

P-value = 0.0000.

Table 5: Distribution of ulcers by oral location

Ulceration	Location						Total
	Playing	Oral floor	Vestibule Buccal	Gingiva	Hard palate	Others	
N (%)	7 (05,98)	16 (13,67)	54 (46,15)	31 (26,50)	18 (15,38)	8 (06,84)	117 (100)

P-value = 0.0000.

Conclusion

Oral mucosal ulcerations are very disabling lesions due to the pain, discomfort and refusal to eat that they can cause in the elderly with possible repercussions on the general condition.

In this study, they were more common in removable denture wearers with a greater localization in the oral vestibule and gums. These results show the need to set up dental practices in public health facilities dedicated to the elderly for better management of oral diseases to improve the quality of food for better health.

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