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International Dental Journal of Student's Research

Journal homepage: https://www.idjsronline.com/

Original Research Article

Prevalence of oral mucosal lesions in the geriatric population of Chhattisgarh- A real world evidence

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ARTICLE INFO

Article history:
Received 11-09-2021
Accepted 30-09-2021
Available online 16-10-2021

Keywords:
Oral Medicine and Radiology

ABSTRACT

Introduction: Patients with oral mucosal diseases are known to encounter severe and life-threatening symptoms, preventing them from eating and drinking, and influencing daily life in many ways. They may even serve threat to interpersonal relationships, appearance and an individual's positive self-image.
Aim: We aimed to search out the prevalence and to achieve more knowledge about oral soft tissue lesions in the geriatric Chhattisgarh Population and possibly identify new avenues of research in this area.
We also aimed to make available this baseline data about the magnitude of the oral diseases for planning National / State / Regional health programs to formulate strategies to prevent & treat these lesions.
Materials and Methods : It is a Prospective and observational correlation study, performed in an exceedingly period of two years which included the individuals of age 60 years and above from the Chhattisgarh Population. The chosen individuals were then screened for the presence of oral mucosal normal variations by 3 individual examiners and the diagnosis was rendered.
Results: In the present study, the prevalence of oral mucosal lesions was found to be 80 %. The most prevalent lesion was found to be smoker's palate (26.6%) followed by smoker's melanosis (17.01%), leukoplakia (8.5%), angular cheilitis (3.7%), tobacco pouch keratosis (3.2%), carcinoma (2.1%), oral submucous fibrosis (1.9%), fibroma (1.4%), gingival enlargement (0.7%), candidiasis (0.4%) ulcer (0.2%), erythema multiforme (0.14%), mucocele (0.14%), and herpes (0.14%).
Conclusion: The results show that Bidi associated lesions are more prevalent in our population. A high prevalence of some lesions in this population commands national programs toward oral health awareness. Although some recent curbs have been put on the manufacture, sale and advertisements of gutka and pan masala, further education is necessary to reduce or eliminate the use of these preparations.

1. Introduction

India is a vast country with a population of more than 1.2 billion, of which 7.6%, i.e. approximately 76 million people are older than 60 years. The elderly population of India suffers from numerous dental and oral health problems with the incidence of oral cancer being the highest.[1]

Patients with oral mucosal diseases are known to encounter severe and life-threatening symptoms, preventing them from eating and drinking, and influencing daily life in many ways. They may even serve threat to interpersonal relationships, appearance and an individual's positive self-image.[2,3]

There are very few studies worldwide with a sufficiently large number of individuals presenting data on oral mucosal lesions in a general population. The search of the literature revealed no such studies in Chhattisgarh Population, warranting a quick need to carry out a study to understand the prevalence of oral soft tissue lesions in the geriatric

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https://doi.org/10.18231/j.idjsr.2021.027

Chhattisgarh Population.

2. Aim

We aimed to search out the prevalence and to achieve more knowledge about oral soft tissue lesions in the geriatric Chhattisgarh Population and possibly identify new avenues of research in this area.

We also aimed to make available this baseline data about the magnitude of the oral diseases for planning National / State / Regional health programs to formulate strategies to prevent & treat these lesions.

2.1. Study design

It is a Prospective and observational correlation study, performed in an exceedingly period of two years from 2015-2017 within the Department Of Oral Medicine and Radiology at Chhattisgarh Dental College and Research Institute, Rajnandgaon, (Chhattisgarh), India.

2.2. Case selection

2.2.1. Inclusion criteria

1. Individuals of Chhattisgarh Population.
2. Individuals of age 60 years and above.

2.2.2. Exclusion criteria

1. Individuals of age below 60 years
2. Individuals not belonging to the Chhattisgarh region.

2.3. Methodology

The study comprises 714 geriatric individuals, who were selected from the individuals visiting from the Department of Oral Medicine and Radiology, Chhattisgarh Dental College and Research Institute, and a camp held by the institute. The chosen individuals were then screened for the presence of oral mucosal normal variations by 3 individual examiners and the diagnosis was rendered.

3. Results

Table 1: Distribution of subjects in both the Genders

Age group	Subjects
Male	525
Female	189
total	714

In the present study, the prevalence of oral mucosal lesions was found to be 80%. The most prevalent lesion was found to be smoker's palate (26.6%) followed by smoker's melanosis (17.01%), leukoplakia (8.5%), angular cheilitis (3.7%), tobacco pouch keratosis (3.2%), carcinoma (2.1%), oral submucous fibrosis (1.9%), fibroma (1.4%), gingival enlargement (0.7%), candidiasis (0.4%) ulcer (0.2%), erythema multiforme (0.14%), mucocele (0.14%), and herpes (0.14%).

Table 2: Prevalenceof oral lesions

Oral mucosal lesions	Male	Female	Total	Prevalence
Oral submucous fibrosis	14	0	14	1.96%
Tobacco-pouch keratosis	23	0	23	3.22%
Smoker's palate	190	0	190	26.61%
Leukoplakia	57	4	61	8.54%
Carcinoma	13	2	15	2.101%
Erythema multiforme	1	0	1	0.14%
Angular cheilitis	27	0	27	3.78%
Fibroma	10	0	10	1.40%
Mucocele	1	0	1	0.14%
Gingival Enlargement	2	3	5	0.7%
Ulcer	2	0	2	0.2%
Herpes	1	0	1	0.14%
Candidiasis	3	0	3	0.42%
Smoker's Melanosis	121	0	121	17.01%

4. Discussion

Only limited information on oral mucosal abnormalities in the rural or semi-urban population of India is available, however few isolated studies of prevalent lesions have been reported in the past. The prevalence of oral lesions in the population documented in other parts of the world like Colombia, Mexico, Brazil, Chile, USA, Israel and Iran are mainly based on clinical evaluation of the lesions.

While emerging lifestyle and food habits have been contributing factors, the problem of bad oral health is compounded by a low dentist to population ratio.[4] This low dentist to population ratio limits the curative approach to tackle dental problems in rural areas while it is widely acknowledged that oral cancer can best be prevented through early detection and primary prevention. Unfortunately, the awareness levels of lesions associated with the usage of addictive agents continue to remain abnormally low.[5]

Since elderly are more prone to different types of diseases and lesions as well as systemic problems, it makes the management of the conditions more complex. As a result, prevention and early detection of life-threatening lesions are of crucial importance.[6]

Impaired oral health conditions can diminish one's social interactions, self-esteem, and self-image and have a dramatic effect on a person's quality of life. Ageing increases the susceptibility to disease. Oral, dental, and craniofacial diseases and conditions are reported in higher proportions in the elderly than their younger counterparts. The frail elders are particularly even more vulnerable to increased morbidity due to oral infections. Dental

professionals must comprehend the special prerequisites of the elderly and work meticulously to render proper treatment to this group of population.[7]

The prevalence of oral mucosal lesions is reported to be higher in older patients contrasting the younger ones. Oral mucosal disorders and ageing are considered proportional. Information on the oral health of the elderly population in some countries is available, but scarce data are available or have been published on the elderly population of Chhattisgarh.

In the present study, the prevalence of oral mucosal lesions in the Chhattisgarh geriatric population was found to be 80 %. While Bakhshi et al[8] reported it to be 81.4% in Iran geriatric population, Maweri S.A.A. et al[6] reported it to be 77.1% in Sana'a Yemen geriatric population, Patil et al[9] reported it to be 64% in the Indian population, Fleishman et al[10] reported it to be 61.4%, Ferreira et al[11] reported 60% in Brazil geriatric population, Rastogi et al[12] reported it to be 58% in North India, Mujica et al[5] reported 57% in Venezuelan geriatric population, Espinoza et al[4] reported 53% in Santiago, Chile geriatric population.

Considering whole of the Chhattisgarh geriatric population, the most prevalent lesion was found to be smoker's palate (26.6%) followed by smoker's melanosis (17.01%), leukoplakia (8.5%), angular chelities (3.7%), tobacco pouch keratosis (3.2%), carcinoma (2.1%), oral submucous fibrosis (1.9%), fibroma (1.4%), gingival enlargement (0.7%), candidiasis (0.4%) ulcer (0.2%), erythemia multiforme (0.14%), mucocele (0.14%), and herpes (0.14%).

In the present study the most prevalent oral mucosal lesion in the Chhattisgarh population was found to be smoker's palate (26.6%); while in Santiago, Chile (2003) population it was found denture stomatitis (22.3%); in Brazil population (2010) to be denture stomatitis (15.2%); in Turina population (2008) to be traumatic ulcer (2.98%); in Venezuelan population (2008), to be denture stomatitis (18%); in Northeast Iran (2014) found to be denture stomatitis (54.6%); in Iran population (2015) to be denture stomatitis (9.3%); in Indian Population (2015) nicotinic stomatitis (43%); Sana'aYemen (2015) to be benign tumours (17.1%); in Shiraz, Iran population lichen planus (21.6%) and North India population (2016) found to be leukoplakia (12%).

4.1. Oral submucous fibrosis

It was found in 1.9% of the present population and was only found in males and no such cases were found in females in the present study. A much higher prevalence of such lesions was reported by Patil et al[9] in the Indian population as 30%. It was most frequently found in younger age groups compared to older age groups. There was generalized blanching, fibrotic band on the buccal mucosa and hard palate and soft palate limited mouth opening, and complainants of a burning sensation in this lesion.

4.2. Tobacco pouch keratosis

The prevalence of Tobacco pouch keratosis in our population was 3.2%. It was only found in males and no such cases were found in females in the present study. This lesion was mostly caused by tobacco placement in buccal mucosa and labial mucosa.

4.3. Smoker's palate

The prevalence of smoker's palate in the present population was 26.6%. The smoker's palate was observed only in men. A much higher prevalence of such lesions was reported by Patil et al[9] in the Indian population as 43%. Whereas, Rastogi et al[12] reported it to be 9% in North India.

4.4. Smoker's melanosis

The prevalence of smoker's melanosis in the present population was found to be 17.01%.

4.5. Leukoplakia

The prevalence of leukoplakia in our population was 8.54%. All subjects with leukoplakia in our population were gutkha and tobacco chewers. It was more prevalent in males than in females (10% and 2.1% in males and females respectively). A much higher prevalence of such lesions was reported by Rastogi et al[12] as 12% in North India. Whereas, Patil et al[9] reported 1.49% in Indian population; Ferreira et al[11] reported 1.7% in Brazilian population; Mujica et al[5] reported 13% in Venezuelan Population; Espinoza et al[4] reported 1.7% in Santiago, Chile Population and Bakshi et al[8] reported 0.8% in Iran population. The most frequent site of involvement was the buccal mucosa, including the commissure, followed by the alveolar ridge and the retromolar region.

4.6. Malignancy

The prevalence of carcinoma in the present study was 2.1%. In the present study, carcinoma was more found to be prevalent in males (2.4%) than females (1%). However other studies showing the prevalence of malignancy reported by Pardis et al[13] in Shiraz Iran population was 7.6%; by Ferreira et al[11] was 0.2% in Brazil area; by Mujica et al[5] was 2%, in Venezuelan population; by Espinoza et al[4] was 0.6% in Santiago Chile population; by Bakhshi et al[8] was 2.3% in Iran population; by Patil et al[9] was 2% in Indian population. It was more prevalent in the patient who had a habit of chewing tobacco and gutkha.

4.7. Erythema multiforme

The prevalence of erythema multiforme in the present population was 0.1%.

4.8. Angular cheilitis

Angular cheilitis was found in 3.78% of subjects of the present population. It was more prevalent in males in the present study. A much higher prevalence of such lesions was reported by Patil et al[9] as 18% in the Indian population. Whereas Mujica et al[5] reported it to be 5% in Venezuelan population, Bakhshi et al[8] reported 5.4% Iran geriatric population, Espinoza et al[4] reported 2.9% in Santiago Chile population, Ferreira et al[11] reported 2.9% in Brazil geriatric population and Rastogi et al[12] reported 1.5% in North India population.

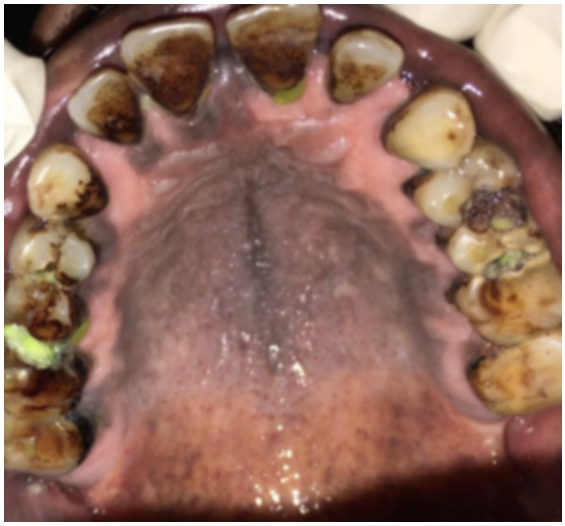

Fig. 1: Smoker's Palate

Fig. 2: Carcinoma on Lower Labial Mucosa

Fig. 3: Candidiasis on the Hard Palate

Fig. 4: Gingival Enlargement

4.9. Irritational fibroma

The prevalence of irritational fibroma in our study was 1.4%. It was more prevalent in the males in the present study. A much higher prevalence of such lesion was reported by Patil et al[9] as 9% in the Indian population whereas Mozafari et al[14] reported it to be 2.4% in Northeast Iran, Rastogi et al[12] reported 1% in North India, and Ferreira et al[11] reported 0.8% in Brazil geriatric population.

4.10. Mucocele

The prevalence of mucocele in the present study was 0.1% and it was only found in males. A much higher prevalence of such lesion was reported by Patil et al[9] 4% in the Indian population whereas Bakhshi et al[8] reported it to be 2.3% in Iran geriatric population, Mozafari et al[14] reported 0.4% in Northeast Iran, Ferreira et al[11] reported 0.3% in Brazil geriatric population, Espinoza et al[4] reported 0.2%

in Santiago Chile population.

4.11. Gingival enlargement

The prevalence of gingival enlargement in the present study was 0.7%. It was more prevalent in males (1.5%) than females (0.3%). This is in accordance with the study done by Patil et al[9] where the prevalence was found to be 2%.

4.12. Aphthous ulcer

The prevalence of ulcers in the present study was 0.2%. It was more prevalent in the males in the present study. A much higher prevalence of such lesion was reported by Mozafari et al[14] as 5.4% in Northeast Iran, Whereas, Bakhshi et al[8] reported it 3.1% in Iran geriatric population, Rastogi et al[12] reported 1% in North India, Mujica et al[5] reported 1% Venezuelan geriatric population and Ferreira et al[11] reported to be 0.4% in Brazil geriatric population.

4.13. Herpes

The prevalence of herpes in the present study was 0.1%. It was more prevalent in the male in the present study.

4.14. Candidiasis

The prevalence of candidiasis in the present study was 0.4%. It was only found in the males in our study. A much higher prevalence of such lesion was reported by Patil et al[9] as 17.2%, Rastogi et al[12] reported 1.5% in North India.

5. Conclusion

The present study renders sufficient information about the epidemiologic aspects of oral mucosal lesions in the geriatric population which may prove valuable in the planning of future oral health strategies of this group of the Indian population.

This will further enhance community programs to educate the elderly population, along with the younger generation to get the elderly screened for any oral mucosal lesions by availing adequate clinical and pathological laboratory facilities, which will ensure a good quality of life in this population of interest.

The results show that Bidi associated lesions are more prevalent in our population. A high prevalence of some lesions in this population commands national programs toward oral health awareness. Although some recent curbs have been put on the manufacture, sale and advertisements of gutka and pan masala, further education is necessary to reduce or eliminate the use of these preparations.

6. Conflict of Interest

The authors declare that there are no conflicts of interest in this paper.

7. Source of Funding

None.

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Cite this article: Patel D, Agrawal N. Prevalence of oral mucosal lesions in the geriatric population of Chhattisgarh- A real world evidence. *International Dental Journal of Student's Research* 2021;9(3):146-150.