A Sketch on Oral Mucosal Lesion Presenting in a Rural Tertiary Care Hospital in Bangladesh

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INTRODUCTION:

An oral lesion (which includes aphthous ulcers) is an ulcer that occurs on the mucous membrane of the oral cavity. They are very common, occurring in association with many diseases and by many different mechanisms. They can be recognized by a break in the skin or mucous membrane with loss of surface tissue and the disintegration and necrosis of epithelial tissue. Oral mucosal lesion (OML) is defined as any abnormal alteration in color, surface aspect, swelling, or loss of integrity of the oral mucosal surface.1 Some oral mucosal lesions are benign and require no treatment but some may present with significant pathology. Several oral potential disorders frequently progress into malignancy.2

ABSTRACT:

Background: Oral mucosal lesion (OML) is defined as any abnormal alteration in color, surface aspect, swelling, or loss of integrity of the oral mucosal surface. Some oral mucosal lesions are benign and require no treatment but some may present with significant pathology. Several oral potential disorders frequently progress into malignancy. Objective: The present study was carried out to assess the pattern of various oral cavity lesions of patients attending in a regional tertiary care hospital in northern area of Bangladesh. Materials and Methods: This prospective cross-sectional study was carried out in the Department of Dentistry in collaboration with department of Pathology of Khwaja Yunus Ali Medical College and Hospital, Sirajgonj, Bangladesh during the period of one year from December 2016 to December 2017. An elaborate schedule was prepared before undertaking the study. A total of 73 patients in the Dental OPD of the hospital presenting with oral lesion for more than 3 weeks were randomly selected. An incisional biopsy was taken from all patients and histological examinations were done. The collected data were analyzed using SPSS (V-20) and MS Excel. Results: Most common site of oral lesion is Buccal Mucosa (36.99%), then supraglottic region (26.03%), lower lip 6.85%, gingiva 5.48%, anterior palate and oral flor 4.11% each. Most of the lesion were Squamous cell carcinoma (58%), then lichen planus, leukoplakia, inflammatory lesion, pyogenic granuloma and verrucous carcinoma, each of them was around 5% of lesion. Conclusion: The epidemiological data on the prevalence of oral lesion is an important determinant in planning appropriate levels of services and further studies are required to provide accurate estimates of the treatment need in Bangladeshi population with oral lesion.

KEY WORDS: Oral lesion, Oral ulcer, Oral premalignant lesion, Oral Cancer, Tertiary care Hospital, Northern region of Bangladesh

Background:

Oral mucosal lesion (OML) is defined as any abnormal alteration in color, surface aspect, swelling, or loss of integrity of the oral mucosal surface. They can be recognized by a break in the skin or mucous membrane with loss of surface tissue and the disintegration and necrosis of epithelial tissue. Oral mucosal lesion (OML) is defined as any abnormal alteration in color, surface aspect, swelling, or loss of integrity of the oral mucosal surface.1 Some oral mucosal lesions are benign and require no treatment but some may present with significant pathology. Several oral potential disorders frequently progress into malignancy. Apart from that, oral mucosal lesions have impact on mastication, swallowing and speech with symptoms of burning, irritation & pain which may affect patient’s quality of life. When there is any reactive & inflammatory condition in mouth oral mucosal biopsies are taken.Giant cell granuloma, peripheral ossifying fibroma, pyogenic granuloma, and fibrous and/or epithelial hyperplasia are some reactive lesion in the oral cavity.2,3 Hormonal changes may also affect the development of some of these lesions, including pyogenic granuloma, also called pregnancy tumor.4 The oral mucosa is also one of the most common locations for dermatomes, pigmented lesions, and viral diseases. Infection by oncogenic or no oncogenic viruses can cause several lesions in the oral mucosa.5,6 For example, human papilloma virus is responsible for papilloma's lesions, especially in the palatal...
mucosa. Immune mediated vesiculobullous diseases, including lichen planus, are also not rare in the oral mucosa and may be malignant. To understand the prevalence, distribution and risk factors of oral mucosal lesion, epidemiological studies are needed. Although World Health Organization recommendations to encourage more epidemiological survey of oral mucosal lesion, a very few studies has been done in this area but the results of such studies have rarely been published worldwide. Research about oral mucosal lesion is important in order to understand its extension and characteristics. Early diagnosis is the most important single factor in combating oral cancer and improving survival rate. Hence the need for this study is to determine the prevalence of OML in the adult patients reporting to the dental outpatient department (OPD). This study will help to elaborate the adequate management of the prevention protocol and the needed treatment for this population.

MATERIALS AND METHODS:
This prospective cross-sectional study was carried out in the Department of Dentistry in collaboration with department of Pathology of Khwaja Yunus Ali Medical College and Hospital, Sirajgonj, Bangladesh during the period of one year from December 2016 to December 2017. An elaborate schedule was prepared before undertaking the study. A total of 73 patients in the Dental OPD of the hospital presenting with oral lesion for more than 3 weeks were randomly selected. Patients’ history were taken, oral examination were done, and noted accordingly on patient records. Patients in whom an intraoral examination was not possible due to inadequate mouth opening were excluded from the study. An incisional biopsy was taken from all patients and histological examinations were done. The parameters included in the study were age, gender, demographic profile, habit, clinical presentation, site and histopathological diagnosis of the lesion. All the biopsy specimens of oral cavity lesions were included in the study. Any repeat biopsy for residual lesion after therapy was excluded from the study. The collected data were analysed using MS Excel.

RESULTS:
Oral mucosal lesions are common problems in Bangladeshi population and account for a significant proportion of patients presenting to the Dental department. Due to high prevalence of use of tobacco in the form of chewing or smoking, along with use of areca nut and paan, and socio-economic context a large number of patients end up with mucosal lesions within the oral cavity. The various oral mucosal lesions commonly found in a tertiary rural hospital of northern region of Bangladesh are presented below.
Table II: Clinical Presentation of oral lesion

| Characteristics | N  | %   |
|-----------------|----|-----|
| **Complaints**  |    |     |
| No Complaints   | 10 | 13.7|
| Burning         | 15 | 20.5|
| Pain            | 23 | 31.5|
| Pain with Burning | 25 | 34.2|
| Total           | 73 | 100.0|
| **Mouth Opening** |  |     |
| Restricted      | 25 | 34.2|
| Total           | 73 | 100.0|
| **Oral Hygiene** |  |     |
| Black pigmentation | 8  | 11.0|
| Erosion         | 13 | 17.8|
| Nodular         | 3  | 4.1 |
| Red patch       | 4  | 5.5 |
| Submucous fibrosis | 3  | 4.1 |
| Swelling        | 4  | 5.5 |
| Ulcer           | 32 | 43.8|
| Verrucous Ca    | 3  | 4.1 |
| White patch     | 3  | 4.1 |
| Total           | 73 | 100.0|
| **Presentation** |  |     |
| Black pigmentation | 8  | 11.0|
| Erosion         | 13 | 17.8|
| Nodular         | 3  | 4.1 |
| Red patch       | 4  | 5.5 |
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| Swelling        | 4  | 5.5 |
| Ulcer           | 32 | 43.8|
| Verrucous Ca    | 3  | 4.1 |
| White patch     | 3  | 4.1 |
| Total           | 73 | 100.0|

Age of the patients ranges from 10 to 95 years; their mean±sd is 55.21±16.56 (fig. 1). About one third of patients (35.60%) are female. Thirteen point seven percent patients were literate and 6.80% patients were graduate. More than half (56.10%) of patients were house wife, and rest are service holder and others professionals. About one third (34.20%) patients were in low economic condition, and 20.5% were high in economic condition. About half (47.86%) of patients were tobacco consumer either by smoking or smokeless; 45.20% patients chewed betel leaf with nut; 6.84% patients have no any oral habit (table I).

About one third of patients (34.20%) complained paining and burning sensation in lesion site. Thirty one point five percent patients complained only burning in lesion sit; 13.70% patients had no any complaints. About two third (65.80%) patients’ mouth opening was normal, and rests’ mouth opening was restricted. Most of the patients’ (41.10%) oral hygiene is poor; and 20.50% patients have good oral hygiene. Regarding clinical presentation, the lesions are 11% black pigmentation, 17.80% mucosal erosion, ulcer 43.80% and rest are others lesion (table II).

**DISCUSSION:**

Oral depression sores are normally asymptomatic. The majority of the sores are generous with the commonest being lymphoid hyperplasia, maintenance growth, aggravation, haemangioma, fibroma and so on. Among harm, squamous cell carcinoma is the most well-known pathology. Now and again beginning phases of threat may emulate considerable injuries. This prompts erroneous treatment and accordingly
conceivably lethal ramifications for the patient. Legitimate administration of the patient starts with a precise analysis. Histopathology is as yet the highest quality level. Various locales in the oral cavity show inclination for various kinds of injuries. The current review study was completed to evaluate the example of different oral pit injuries.

In present study, age of the patients ranges from 10 to 95 years; their mean±sd is 55.21±16.56 (fig. 1). This co-relates with many studies\textsuperscript{11-14}, done in the different parts of the world. In the present study, men had oral mucosal lesions more frequently than in females, which is similar to the report by Agrawal et al\textsuperscript{11} and Pudasaini and Barar.\textsuperscript{15} In contrast, previous studies by Modi et al.,\textsuperscript{16} and Claudia et al.,\textsuperscript{17} reported a higher incidence of oral lesions in males, probably due to more deleterious oral habits in females in their area of study. Thirteen point seven percent patients were literate and 6.80% patients were graduate. Similar results were reported by Suliman et. al,\textsuperscript{18} Aurlene et al.\textsuperscript{19} and Gheno et al.\textsuperscript{20} More than half (56.10%) of patients were house wife, and rest are service holder and others professionals. These findings are in agreement with study of El Toum et al.\textsuperscript{21} and Babu et al.\textsuperscript{22} About one third (34.20%) patients were in low economic condition, and 20.5% were high in economic condition. This result is consisted with the study of Aurlene et al.,\textsuperscript{19} and Gheno et al.\textsuperscript{20}

About half (47.86%) of patients were tobacco consumer either by smoking or smokeless; 45.20% patients chewed betel leaf with nut; 6.84% patients have no any oral habit (table I). Thada and Pai,\textsuperscript{23} Naveed\textsuperscript{24} and Ain et al.\textsuperscript{25} reported similar findings from their study. The association between tobacco chewing in the form of gutka and cigarette smoking with pathological lesions, both pre-cancerous and cancerous has already been proven. Many studies are conducted worldwide on the epidemiology and prevalence of OML and normal physiologic variants, but there have been very few in which subjects are assigned groups according to the required treatment. Efforts to increase patient awareness of the oral effects of tobacco use and to eliminate the habit are needed to improve oral and general health. Dental professionals should advise and encourage patients to quit the use of tobacco. It is important to counsel patients who use tobacco in any form that no form of tobacco use is safe.

Oral cavity lesions are usually asymptomatic in early stage. About one third of patients (34.20%) complained pain and burning sensation in lesion site. Thirty one point five percent patients complained pain only and 20.5% patients complained only burning in lesion site; 13.70% patients had no any complaints. About two third (65.80%) patients’ mouth opening was normal, and rests’ mouth opening was restricted. Most of the patients’ (41.10%) oral hygiene is poor; and 20.50% patients have good oral hygiene. Suliman et al.,\textsuperscript{18} reported similar symptoms in oral lesion but differs in oral hygiene in Brazilian population. Aurlene et al.\textsuperscript{19} found similar oral hygiene in a study in India. Abdalla-Aslan et al.\textsuperscript{26} found most of the patients with oral lesion complaint of pain and burning. Pain of the oral mucosa is a common accompanying symptom of various oral mucosal lesions caused by local and systemic diseases. Pain of the oral mucosa is usually associated with a known cause of tissue damage, e.g. mucosal ulcer or erosion. Regarding clinical presentation, the lesions are 11% black pigmentation, 17.80% mucosal erosion, ulcer 43.80% and rest are others lesion (table II). Ali et al.\textsuperscript{27} published similar results from a study in Kuwait. The present study is also in agreement with Suliman et. al,\textsuperscript{18} Suvernkar et al.,\textsuperscript{28} and Phoohan & Saikia.\textsuperscript{29} Most common site of oral lesion is Buccal Mucosa (36.99%), then supraglottic region (26.03%), lower lip 6.85%, gingiva 5.48%, anterior palate and oral flor 4.11% each (fig 2).

This study differs from Agrawal et al.\textsuperscript{11} who found the most common site affected was tongue followed by tonsil and then the buccal mucosa. Bhatnagar et al.\textsuperscript{30} found palate is most common site followed by buccal mucosa for oral lesion in Indian population. Study by Modi et al.,\textsuperscript{16} Naveed,\textsuperscript{24} and Jagtap,\textsuperscript{31} reported buccal mucosa as the main site to be involved. Although tongue is found as most frequent site of oral lesion, the present study did not found any tongue lesion. It might be due to exclusion of tongue lesion by random selection or no case was present in study period.

Classifying oral soft tissue lesions according to their clinical appearance is an important step in the diagnostic sequence. The dental practitioner should have information about the type and severity of lesions that tend to occur in a particular population to aid in the differential diagnosis.

The finding of the wide assortment of sores that happen in the oral pit is a fundamental piece of dental practice. The commonness information of these injuries is imperative for arranging oral medical care administrations. Most of the lesion were Squamous cell carcinoma (58%), then lichen planus, leukoplakia, inflammatory lesion, pyogenic granuloma and verrucous carcinoma, each of them was around 5% of lesion (fig 3). Ali et al.\textsuperscript{27} published similar results from a study in Kuwait but they did not found any malignant lesion, this might be due to their ethnic variation, different food habit and more awareness about oral cancer. Agrawal et al.\textsuperscript{11} reported less 1% cases as squamous cell carcinoma. Ain\textsuperscript{25} and Bhatnagar et al.\textsuperscript{30} reported smoker’s palate is most common oral lesion followed by leukoplakia with no malignancy in Indian population. Gheno et al.\textsuperscript{20} evaluated oral lesions during an oral cancer screening campaign in southern Brazil, they found mostly angular chelitis followed by candidiasis, no malignant cases was reported. Thada and Pai,\textsuperscript{23} Naveed\textsuperscript{24} and Goyal et al.\textsuperscript{32} found reactive lesion is most common lesion followed by leukoplakia, and oral carcinoma is found less frequently.
present study provides important information about the prevalence of oral mucosal lesions among patients seeking oral care. The information presented in this study adds to our understanding of the common oral mucosal lesions occurring in the general population. Although most of these lesions are innocuous, the dentist should nevertheless be able to recognize and differentiate them from worrisome lesions, and decide on the appropriate line of treatment. Periodic continuing education programs covering oral lesions will enhance the diagnostic ability of dental practitioners.

CONCLUSION:
From the current investigation it was seen that greater part of the oral hole sores are dangerous in nature. Any injury in the oral hole ought to be biopsied to preclude harm. Some pre-threatening sore was seen which has more prominent possibility for harmful change. Early conclusion of these uncommon injuries is significant from the administration perspective. Further it is recommended that individual and segment subtleties like age, sex, occupation, food propensities, other harmful propensities, religion or oral clean measures ought to be remembered for the biopsy demand frames and be appropriately filled by the alluding specialist consequently helping in recognizing the high danger gatherings. Better endeavors for expanding the mindfulness among the mass with respect to the hurtful impacts of tobacco ought to be worked out. Wellbeing experts need to assume an indispensable part in such manner.

CONFLICT OF INTEREST:
Author declared no conflict of interest

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