Oral erythematous candidiasis: A case report

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Received: 06 August 2020; Accepted: 10 September 2020
doi: 10.15713/ins.ijmdcr.147

How to cite the article:

Abstract
Oral candidiasis is the most prevalent opportunistic infection affecting the oral mucosa. In the vast majority of cases, the lesions are caused by Candida albicans. This pathology has a wide variety of treatment which has been studied until these days. Both local (in the mouth) and systemic (in the whole body) factors may increase the likelihood of developing oral candidiasis. We report a case of a male patient with oral candidiasis who was treated successfully with anti-fungal therapy.

Keywords: Anti-fungal therapy, erythematous candidiasis, median rhomboid glossitis

Introduction
Oral candidiasis is a common oral yeast infection that is often referred to as “thrush.”[1][2] Oral candidiasis is most commonly caused by a fungal organism called Candida albicans, which is a normal component of the “oral microflora” in up to 30–50% of healthy patients (referred to as “carriers”).[3] When conditions in the mouth allow for overgrowth of Candida, oral candidiasis may develop.[4] There are about 150 species of Candida and over 20 species of them can cause infection in humans.[5] The most common types of Candida species, which are seen in the oral cavity, are as follows: Candida albicans, Candida glabrata, Candida guilliermondii, Candida krusei, Candida parapsilosis, Candida pseudotropicalis, Candida stellatoidea, and Candida tropicalis.[6] The rate of carriage increases with advancing age of the patient and is recovered from 60% of dentate patient’s mouth over the age of 60 years.[6] However, under the influence of conditions that affect the host’s oral flora or immune response, C. albicans or other Candida species can become pathogenic and cause various oral mucosal changes.[7] C. albicans is a dimorphic fungus that causes severe opportunistic infections in humans. It has an ability to grow in two different ways, reproduction by budding, forming an ellipsoid bud, and in hyphae form, which can periodically fragment and give rise to new mycelia, or yeast-like forms.[5] The erythematous form of candidiasis was previously referred to as atrophic oral candidiasis.[6] However, an erythematous surface may not just reflect atrophy but can also be explained by increased vascularization. The lesion has a diffuse border, which helps distinguish it from erythroplakia, which usually has a sharper demarcation and often appears as a slightly submerged lesion.

Case Report
A 30-year-old male patient reported to the department of oral medicine and radiology with a chief complaint of a burning sensation in the mouth for 1 month. It was sudden in onset, moderate in intensity, constant in nature, continuous type, and aggravated while having hot and spicy food, no relieving factors revealed, and no medication was taken. He had the habit of smoking cigarette 3–4/day for 8 years [Figure 1]. There was no medical and drug history revealed. We advised to quit the habit of smoking by reducing the number of cigarette taking per day and take substitution of nicotex gum 2 or 4 mg to chew 2 gums/day until the patient is willing to stop.

On intraoral examination, there was an erythematous region without elevation seen on the hard and soft palate, measured approximately 5×3 cm in size, and extended anteroposteriorly approximately 1 cm away from the rugae to the soft palate and 1 cm below the gingival sulcus from the right and left quadrants [Figure 2]. Moreover, on the dorsum of the tongue, there was a roughly rhomboid in shape atrophic region with approximately 2.5×2 cm in size surrounded by papilla [Figure 3]. On palpation, the lesion was non-tender and non-scrapable. We gave clinical provisional diagnosis as erythematous candidiasis.

Differential diagnoses given are kissing lesion, median rhomboid glossitis, benign migratory glossitis, and erythroplakia. The patient's hematological investigations were normal. Cytology, scrapping method using ice cream stick from the hard palate and dorsum of the tongue, was taken and sent for histopathology results.

On microscopic examination [Figure 4] of the periodic acid–Schiff stain-stained, cytological smear showed the presence...
of inflammatory infiltrate, mostly lymphocytes and magenta-colored *Candida* hyphae in a crisscross pattern. The final diagnosis was given as candidiasis. We gave him to apply candid mouth 1% paint (clotrimazole) 3 times/day for 1 week using a cotton bud and capsule fluconazole 50 mg twice/day for 2 weeks and recovered in 2 weeks. The patient does not inform anything about the recurrence yet.

**Discussion**

*C. albicans* is a normal commensal of the mouth.\(^5\) Overgrowth of *Candida*, however, can lead to local discomfort, an altered taste sensation, dysphagia from esophageal overgrowth resulting in poor nutrition, slow recovery, and prolonged hospital stay.\(^6\) Classification – classified as primary and secondary: \(^8\)

Predisposing factors for oral Candidiasis and Candida-associated lesions:

<table>
<thead>
<tr>
<th>Primary oral candidiasis</th>
<th>Secondary oral candidiasis</th>
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<td>2. Pseudomembranous</td>
<td>b. Diffuse chronic mucocutaneous candidiasis.</td>
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| 3. Erythematous          | c. Candidiasis endocrinopathy syndrome  
                      Familial mucocutaneous candidiasis |
| 4. Chronic               | d. Severe combined immunodeficiency |
| 5. Pseudomembranous      | e. DiGeorge syndrome |
| 6. Erythematous          | f. Chronic granulomatous disease |
| 7. Plaque- like          | g. Acquired immune deficiency syndrome (AIDS) |
| 8. Nodular               | |
| 9. *Candida* associated lesions- |
| Denture stomatitis |
| Angular cheilitis |
| Median rhomboid glossitis |

Etiopathogenesis includes *C. albicans*, *C. tropicalis*, and *C. glabrata* comprise together over 80% of the species isolated from human candidal infections.\(^6\) To invade the mucosal lining, the microorganisms must adhere to the epithelial surface;
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Local
Systemic

Denture wearing
Immunosuppressive diseases
Smoking
Impaired health status
Atopic constitution
Immunosuppressive drugs
Inhalation steroids
Chemotherapy
Topical steroids
Endocrine disorders
Hyperkeratosis
Hematin deficiencies
Imbalance of the oral microflora
Quality and quantity of saliva

therefore, candidal strains with better adhesion potential are more virulent than strains with poorer adhesion ability. The yeasts’ penetration of the epithelial cells is facilitated by their production of lipases, and for the yeasts to remain within the epithelium, they must overcome constant desquamation of surface epithelial cells. The prevalence of candidal strains, as part of the commensal oral flora, shows large geographic variations, but an average figure of 35% has been calculated from several studies. Candidal strains are more frequently isolated from women. A seasonal variation has been observed, with an increase during summer months. Hospitalized patients have a higher prevalence of yeasts. In healthy individuals, blood group O and non-secretion of blood group antigens are separate and cumulative risk factors for oral carriage of C. albicans. In complete denture-wearers, the prevalence of denture stomatitis has been reported variously from 11 to 67%. Management of anti-fungal agents used in the treatment of oral candidiasis:

Conclusion

The prognosis of oral candidiasis is good. Oral hygiene maintenance and early diagnosis of the infection are very important. Management involves proper history taking, clinical examination, removal of the etiological factor, and appropriate anti-fungal treatment.

Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient had given his consent for his images and other clinical information to be reported in the journal. The patients understood that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

References