TPM Vol. 32, No. S5, 2025
ISSN: 1972-6325
https://www.tpmap.org/

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ORAL ULCERS AND ITS DIFFERENTIAL DIAGNOSIS

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ABSTRACT:
Oral ulcer diagnosis and treatment can be challenging due to the clinician's limited exposure to the factors that may cause the lesions and their similar appearances. When treating patients with oral mucosal infections, clinicians need to be sure that the diagnosis is confirmed definitively and accurately. Most of these disorders are chronic, symptomatic, and desquamative, however others are communicative. Treatment and management of the lesion require an understanding of its immunopathologic origin. This article will describe the various types of mouth ulcers and how to diagnose them.

INTRODUCTION:

Ulcers are caused by defects in the epithelium, the underlying connective tissue, or both. Because there are manydifferent potential causes and symptoms that can manifest, oral ulcerative lesions can be challenging to identify[2]. The tongue is frequently affected by nonneoplastic and neoplastic lesions, the latter of which are distinguished by a slow development. They are either inflammatory or a response to a range of irritative stimuli[3].The article goes over a few of the differential diagnoses for mouth ulcers here.

Squamous cell carcinoma

The most common symptoms of oral squamous cell carcinoma (SCC) are ulcers with deeper tissue infiltration, nonhealing extraction sockets, or white lesions, red lesions, or a mixture of both and an indurated mass[1]. Therefore, among other clinical indications, doctors should be alert if any of these symptoms persist longer than two weeks as it may indicate oral cancer. The floor of the mouth and the lateral tongue are the most common intraoral sites for this cancer. [1]

Compared to intraoral cancer, which has a 5-year survival rate of 40–50%, lower lip cancer has a 90% 5-year survival rate. The decreased 5-year rate is partly explained by the fact that nodal metastases are discovered at the time of diagnosis in roughly 80% of tongue cancer cases. Oral SCC can present as a variety of benign diseases at different points in time. Consequently, a comprehensive soft tissue examination must to be performed at every dental or medical checkup. A professional should be consulted for any ulcer that has persisted for more than two weeks and cannot be explained[1].

Trauamatic ulcer

Oral mucosa is comparatively common to sustain trauma. They are brought on by thermal, electrical, or chemical burns in addition to mechanical[1,2]. Traumatic ulcers are most common on the tongue, lips, and buccal mucosa[4]. Male to female ratio is 2.7:1. These sores may endure for several days or even weeks.

Recurrent Apthous Stomatitis:
Based on their size and appearance, recurrent aphthous ulcers (RAS), also referred to as "canker sores," are classified into three categories. Small blisters can heal without leaving any scars, have a diameter of 2 to 5 mm, and can be solitary or many. On the other hand, major aphthae are typically deep, solitary, and leave a scar after healing, with a diameter of greater than 5 mm. Minor and major asthma attacks can affect nonkeratinized tissues such the soft palate, alveolar mucosa, and buccal and labial mucosae. Clusters of rare aphthous ulcers, known as herpetiform aphthous ulcers (<1mm), are observed.
Oral lichen planus:
Oral LP can be erosive, reticular, or atrophic. Most patients with reticular LP don't have any symptoms. The most frequent intraoral site is the buccal mucosa, tongue, lips, palate, gingiva, and mouth floor. LP is characterized by hyperkeratosis, basal cell layer breakdown in the epithelium, and the emergence of a lymphocyte subepithelial band. [2,4]

VESICULO BULLOUS LESIONS INDUCED ULCERS:
Pemphigus vulgaris (PV):
It is a vesiculobullous mucocutaneous autoimmune disease caused due to lack of cell to cell adhesion and blister formation. Oral lesions are the first to appear and frequently gets ruptured due to constant masticatory forces. Common sites include buccal mucosa, palate and gingiva. Histopathologically it is characterised by a suprabasilar split leaving the basal layer intact giving a row of tombstone appearance[1,7].
Mucous Membrane Pemphigoid:
Benign mucous membrane pemphigoid, cicatricial pemphigoid, and ocular cicatricial pemphigoid are other names for mucous membrane pemphigoid. Lesions that are localized to the gingiva are referred to as desquamative or erosive gingivitis. In certain moderate cases of MMP, the only lesions observed are gingival erythema and edema, which are mistaken for gingivitis by dentists. Ocular lesions manifest as visual impairments caused by canthus scarring, corneal scarring, and eyelash inversion. Under a microscope, epithelial detachment at the basement membrane level without acantholysis is visible.
Erythema multiforme:
The hypersensitive reaction known as erythema multiforme (EM) results in erosions of the oral and vaginal mucosa as well as distinctive target-like lesions on the skin. It is typified by asymmetrical red macules, papules, and vesicles that combine to produce bigger target lesions on the skin. Common sites are buccal mucosa, ventral tongue, and labial vestibule. These ulcerations are often accompanied by bullae and irregularly shaped ulcerations with an inflammatory halo. Hemorrhagic crusting of the vermillion border of the lips is a diagnostic indication of EM[9,10].
ULCERS OF VIRAL ETIOLOGY:
Herpes Simplex Virus: Type 1
Primary herpetic gingivostomatitis is the most common sign of an infection with the herpes simplex virus. Oral symptoms include a gingivitis that develops into ulcers which are painful and covered by a pseudomembrane after two to three days, and pin-headed vesicles that rupture readily[1,2,12].
Herpes simplex virus: type 2
Orogenital transmission of HSV-2 can result in mouth ulcers.
Epstein-Barr virus:
Hairy leukoplakia is the most typical EBV infection. It presents as a white lesion in the lateral border of the tongue. EBV-positive mucocutaneous ulcers are an uncommon type of EBV infection that affects individuals with impaired immune systems. This is a slow-moving, self-limiting illness that improves with conservative care. Histologically, lesions are characterized by a polymorphous infiltration and atypical large B-cell blasts, which usually have morphology resembling Hodgkin / Reed-Sternberg cells.
Human Immuno Deficiency Virus:
A variety of oral ulcers, including severe necrotic ulcers without an identifiable etiology, can be brought on by an HIV infection. Ulcers can cause dysphagia, which is unpleasant. The most often impacted mucosa is that of the buccal and pharyngeal cavities.
BACTERIAL CAUSES OF ULCERATION:
Treponema Pallidum[7]
The disease is caused by the spirochete Treponema pallidum and has three distinct phases.
Primary syphilis : Chancre at the site of infection. Regional lymphadenopathy.
Secondary syphilis : Disseminated rash with generalised lymphadenopathy. Snail tract ulcers.
Tertiary syphilis : Gumma, neurological complications.

Tuberculous ulcer:

Leprosy and tuberculosis are two granulomatous diseases that can cause ulcerative mouth sores[15]. The most common intraoral locations include the tongue, gingivae, floor of the mouth, palate, lips, and buccal mucosa. Typically, this lesion appears as a single ulcer with an undermining edge.

ORAL ULCERS ASSOCIATED WITH SYSTEMIC CONDITIONS

Granulomatosis with polyangitis:

Oral ulcers are a sign of Wegner's Granulomatosis (GPA) granulomatosis with polyangitis, a condition characterized by kidney, lung, and upper respiratory tract involvement. Usually, the condition begins with painful changes resembling cobblestones on the palate and gingiva's mucosal surface (strawberry gingiva).

Behçet's disease:

It is an inflammatory chronic condition affecting several organ systems for which there is no known etiology. The most prevalent oral lesions are diffuse aphthous-looking mucosal erosions. There is no proven treatment for Behçet's syndrome. It has been demonstrated that corticosteroids, azathioprine, thalidomide, and dapsone are all effective[1, 2, 4].

CONCLUSION:

Oral ulcers diagnosis can be challenging and requires a comprehensive clinical examination as well as a comprehensive medical history. It is imperative to acknowledge that symptoms related to the mouth may indicate a more serious issue. To verify if the diagnosis is accurate, a biopsy can be required. If an oral ulcer does not heal after two weeks, it should be investigated under a microscope.

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