



Infectious Diseases

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Oral and Maxillofacial Medicine

BACTERIAL INFECTIONS

- Chlamydia
- Gonorrhea
- Syphilis
- Actinomycosis
- Tuberculosis

☐ FUNGAL INFECTIONS

- Blastomycosis
- Histoplasmosis
- Paracoccidioidomycosis
- Aspergillosis
- Cryptococcosis
- Mucormycosis

☐ VIRAL DISEASES

- Herpes
- Human Papilloma Virus
- Coxsackie Virus
- Hepatitis Virus
- Human Immunodeficiency Virus
- Coronaviruses

Chlamydia

- **Oral/Facial Considerations:**
- infections in the oropharynx via oral sex.
- Oral infections are often asymptomatic,
- but fever and lymphadenopathy may occur.
- Tonsillar infections typically manifest as erythema with small punctate lesions.
- uncommonly in other locations in the mouth :erythematous, pustular, erosive, or ulcerated.



Gonorrhoea

- Oral/Facial Considerations
- Oropharyngeal : often asymptomatic
- When symptomatic: nonspecific multiple ulcers, fiery red oral mucosa, pseudomembrane, painful pharyngitis, atypical gingivitis, and lymphadenopathy

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Figure 21-1 Gonococcal gingivitis.

Syphilis

- **Oral/Facial Considerations:**
- **intraoral chancres** :15% of patients with primary syphilis .
- solitary or multiple , painless, sometimes necrotic, ulcers with a rolled border and associated lymphadenopathy.
- Common sites :lips, tongue, palate.
- heal spontaneously without treatment but seek medical care for syphilis
- **Typical oral lesions in secondary syphilis :mucous patch**
- thickened whitish plaque , Necrosis and sloughing , mucosal ulcers, erythematous macular lesions.
- Commonly affected sites : tongue, lip, buccal mucosa, and palate.
- **Syphilis-related gummas classically occur on the hard palate**, but may also occur on the soft palate and the alveolus.
- A gumma begins as a swelling, which eventually ulcerates and then goes through repeated phases of healing and breakdown.

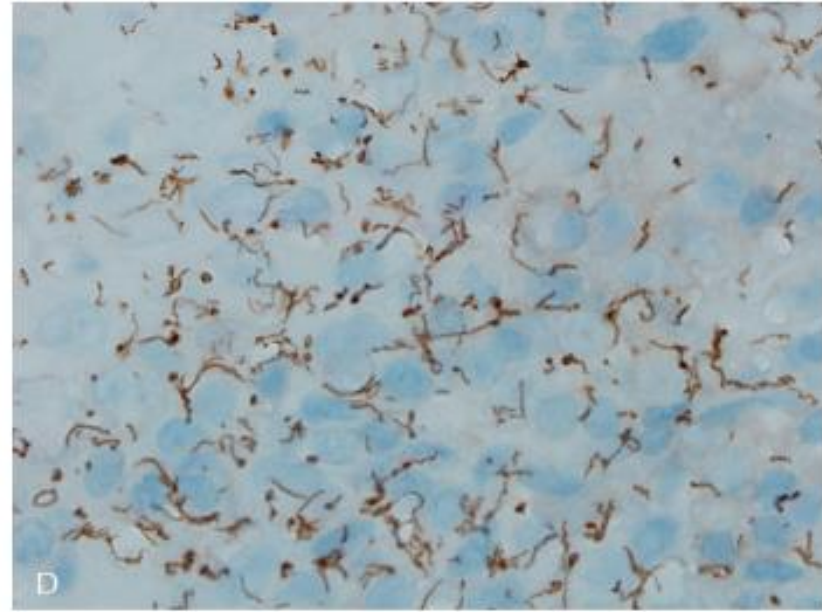
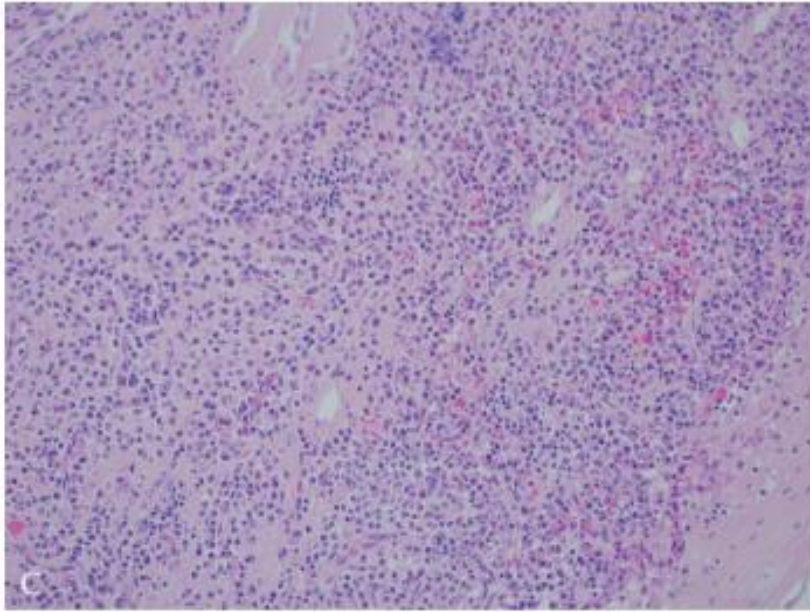


Figure 21-3 (A) Syphilitic patch on the hard palate of primary syphilis. Reproduced with permission from Alam F, Argiriadou AS, Hodgson TA, Kumar N, Porter SR. Primary syphilis remains a cause of oral ulceration. *Br Dent J.* 2000;189:352–354. (B) Primary syphilis: irregular ulceration of the lower lip. *Source:* Courtesy of Dr Stephen Challacombe. (C) H&E and an immunohistochemical stain for a syphilitic oral lesion. The H&E shows polyclonal plasmacytosis, which can be found in syphilis. (D) The immunohistochemical stain shows spirochetes.

- **Bone** destruction , palatal perforation ,oral nasal fistula.
- A gumma may erode into underlying **blood** vessels.
- **Infants** with congenital syphilis may also develop **orofacial malformations**: including **Hutchinson's** notched incisors, **mulberry-shaped** molar teeth, corneal keratitis, frontal bossing, saddle nose, and hard palate defects.

Actinomycosis

- **Oral/Facial Considerations**
- Orofacial : after dental manipulation, oral trauma, or in the setting of poor oral hygiene.
- mandibular soft tissue swelling, also in the cheek, chin, and maxilla. slowly develop sinus tracts with or without **sulfur granules**.

Complications : myositis and osteomyelitis.

D.D: malignancies and granulomatous diseases



Figure 21-4 Sublingual swelling and discharge from actinomycosis. *Source:* Courtesy of Dr Stephen Challacombe.

Tuberculosis

- Oral/Facial Considerations

- 3% Oral manifestations
- neck lymph nodes : scrofula
- Oral soft tissues and supporting bone
- classic presentation : Stellate ulcers at dorsal surface of the tongue
- oral ulcer has undermined edges and a granulating floor
- gingiva, floor of the mouth, palate, lips, and buccal mucosa
- Macroglossia , parotitis, intraosseous lesions, periauricular swelling, and trismus



Figure 21-5 Palatal tuberculosis ulcer in a patient with pulmonary tuberculosis.

VIRAL DISEASES

- Herpes Simplex Virus
- Papilloma virus
- Coxsackie Virus
- Hepatitis
- coronavirus

VIRAL DISEASES

- Viruses are unique since they need a **host cell** to survive, unlike bacteria and fungi.
- Viruses can cause **acute, chronic, and latent** infections.
- Viruses can also be associated with **malignancies**, either via **chronic inflammation** or **DNA damage**.
- The most relevant viruses to the **orofacial** region include the families **Herpesviridae** and **Papillomaviridae**.
- The majority of them are **self-limiting** in **healthy** individuals, while **atypical** presentations with systemic complications (**immunocompromised** hosts)

Herpes

- Herpesviridae family :**eight** DNA viruses in three subclasses as **alpha**, **beta**, and **gamma** herpes viruses.
- Alpha herpes viruses include the herpes simplex virus-1 (**HSV-1**), herpes simplex virus-2 (**HSV-2**), and varicella-zoster virus (**VZV**, HHV-3).
- Beta herpes viruses are cytomegalovirus (**CMV**, HHV-5), human herpesvirus-6 (**HHV-6**), and human herpesvirus-7 (**HHV-7**).
- Gamma herpes viruses consist of Epstein–Barr virus (**EBV**, **HHV-4**) and human herpesvirus-8 (Kaposi sarcoma herpes virus or KSHV, **HHV-8**).



Figure 21-12 (A) Secondary herpes simplex lesions of the upper lip, one hour following prodrome stage. (B) The same herpetic lesions five hours following prodrome stage.



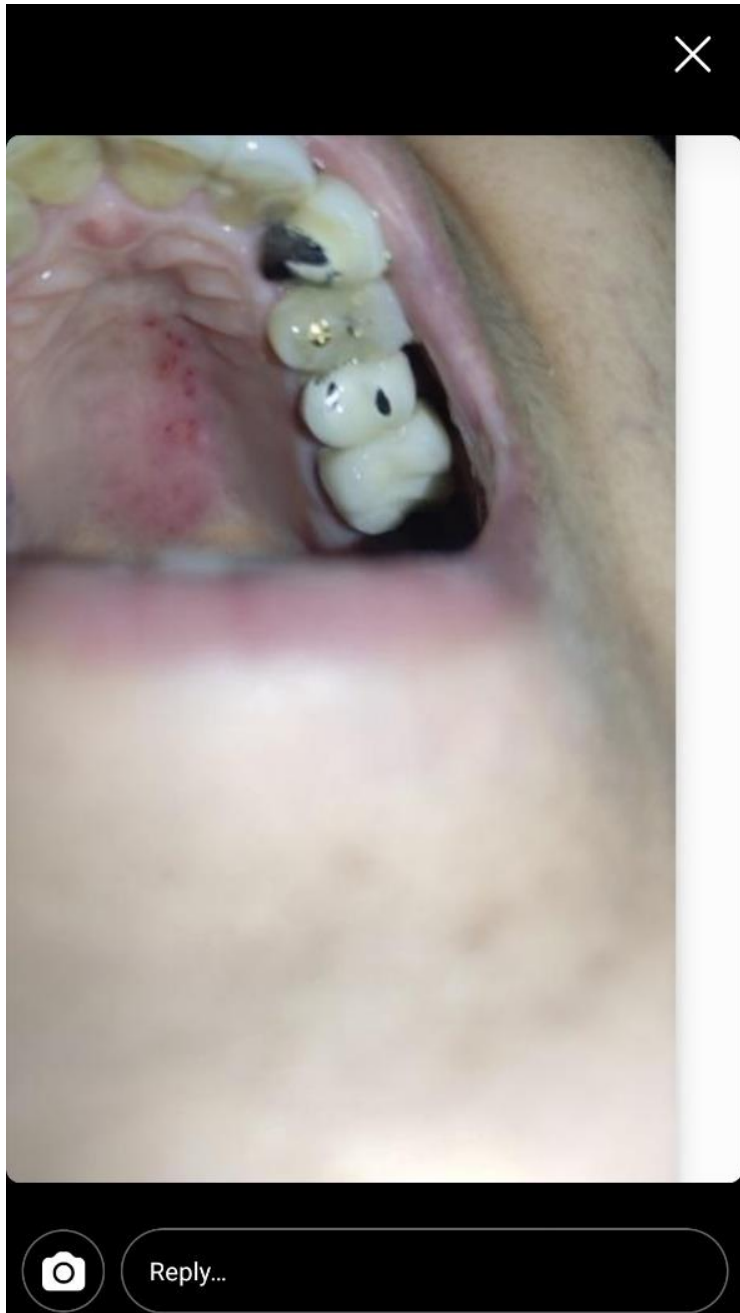
Figure 21-13 Herpes zoster.



Figure 21-14 Herpes zoster.







Alpha Herpes Viruses

- HSV-1 generally affects the areas above the waistline
- HSV-2 mainly causes genital lesions or lesions below the waistline.
However, HSV-1 and -2 can affect either area, including the oral cavity.
- Primary infection of HSV-1 : during childhood as gingivostomatitis or, as pharyngotonsillitis in an adult.
- Latent reactivation of HSV-1 : herpes labialis or a common cold sore.
- atypical forms and severe disseminated forms can occur in immunocompromised individuals and elderly.
- The main mode of transmission of HSV-1 is through contaminated saliva and transmission may occur via kissing a child.

- self-limiting.
- Immunosuppression, ultraviolet sun exposure, stress, changes in weather, especially the colder months.
- **Primary** infection is common among children and young adults, either **asymptomatic** or in the form of **gingivostomatitis**, following a usual course of fever, headache, irritability, loss of appetite, hypersalivation, and cervical lymphadenopathy.
- **recurrent** herpes labialis : prodromal phase of tingling, burning sensation, itching, mild pain, and/or fever.
- single or multiple small erythematous **papules** , **vesicles** (coalesce), **crusting**, no noticeable scar.
- immunocompromised patient: prolonged, widespread, large areas
- The diagnosis is clinical, HSV DNA.

Treatment:

- immunocompromised patients and in moderate to severe infection:
- Oral or systemic acyclovir, 200 mg tablets, 5 times daily for 7 days
- or 5% acyclovir cream every 4 hours for 5 days
- Valacyclovir 1–2 mg twice daily may be used for prophylaxis
- ocular manifestations , neurologic complications: encephalitis, meningitis, and Bell's palsy should be referred to a physician for further evaluation

- Transmission during pregnancy, intrapartum, and postnatally: abortion, stillbirth, and congenital anomalies.
- congenital HSV : skin lesions and scars, eye lesions (microphthalmia, and cataract), neurologic damage (intracranial calcifications, microcephaly, seizures), growth, and psychomotor development retardation.

Human Papilloma Virus

- double-stranded DNA viruses
- commonly found in the oral and oropharyngeal mucosa , tracheobronchial mucosa, and anogenital region.
- more than 100 types and HPV types(16 and 18 in oral, oropharyngeal, and tonsillar carcinomas)
- Orofacial manifestations : are verruca vulgaris or the common wart on the perioral skin; oral papilloma of the oral mucosa; focal epithelial hyperplasia; and condyloma acuminatum.
- Heck's disease or focal epithelial hyperplasia is a rare benign lesion attributed to subtypes 13 or 32 . multiple white or mucosal-color papules or nodular lesions



Multifocal Epithelial Hyperplasia, a Rare Oral Infection in the Iranian Population: A Case Report

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Abstract

Multifocal epithelial hyperplasia (MEH) or Heck's disease is a rare, benign, non-common, self-limiting viral infection of the oral mucosa that is caused by human papillomavirus (HPV), especially subtype 13 or 32. The onset of the disease varies widely between different geographic regions and different races. A 45-year-old male patient was admitted to Department of Oral Medicine of Yazd Dental School for dental examination. Routine extra oral examination revealed numerous papules in the lips. The lesions were multiple, scattered papules that were interconnected in some areas and resembled an exophytic mass. Subsequently, the family history was positive and the clinical features conducted us to the diagnosis of the Focal Epithelial Hyperplasia. Since this disease is rare in the Iranian population and this case is the 19th case in Iran, timely diagnosis and prevention of its transmission had the great importance. Therefore, promotion of dentists' awareness towards diagnosis and appropriate referral to oral medicines specialists were recommended.

Keywords: Focal Epithelial Hyperplasia, Human Papilloma Virus, Heck's Disease, Oral, Hyperplasia

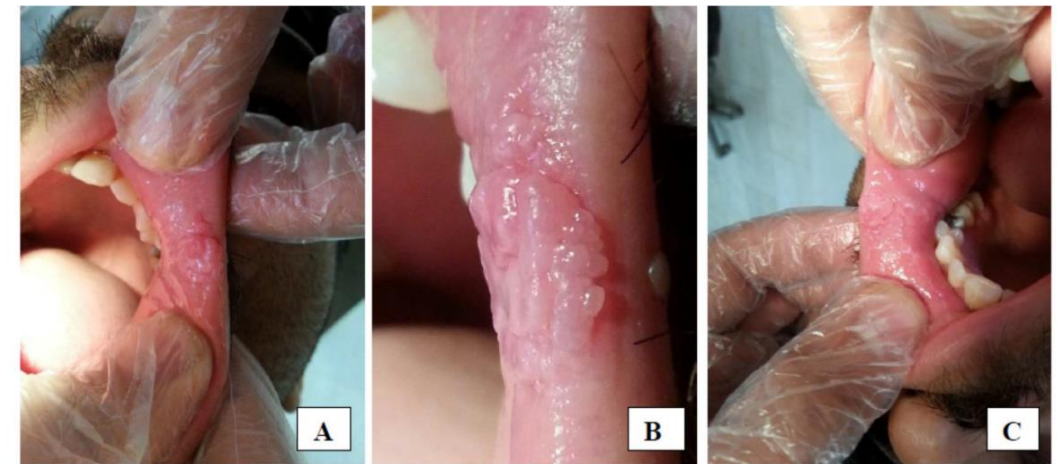


Fig. 1. Clinical features: A) Multiple and scattered papules were obvious. B) The lesions were interconnected in some areas and resembled an exophytic mass. C) The lesion has pink, smooth, intact surface located on the upper lip commissure

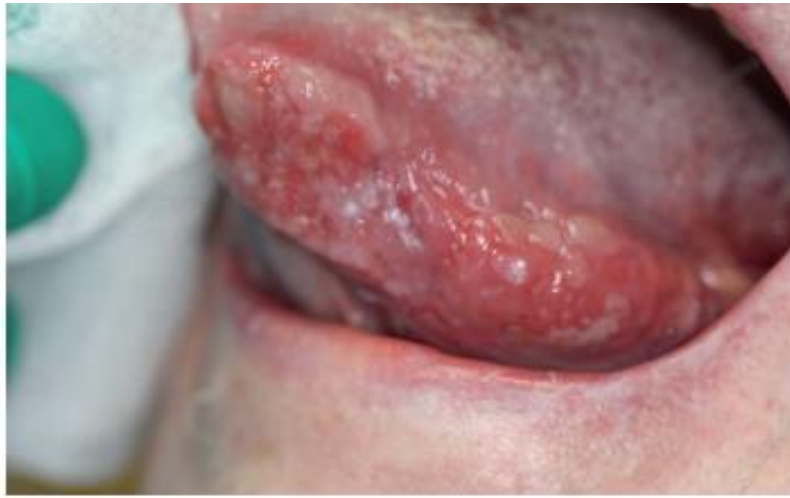


Figure 21-19 Squamous cell carcinoma of the tongue secondary to human papillomavirus with evidence of lichen planus.



Figure 21-21 Heck's disease (human papillomavirus of the tongue).

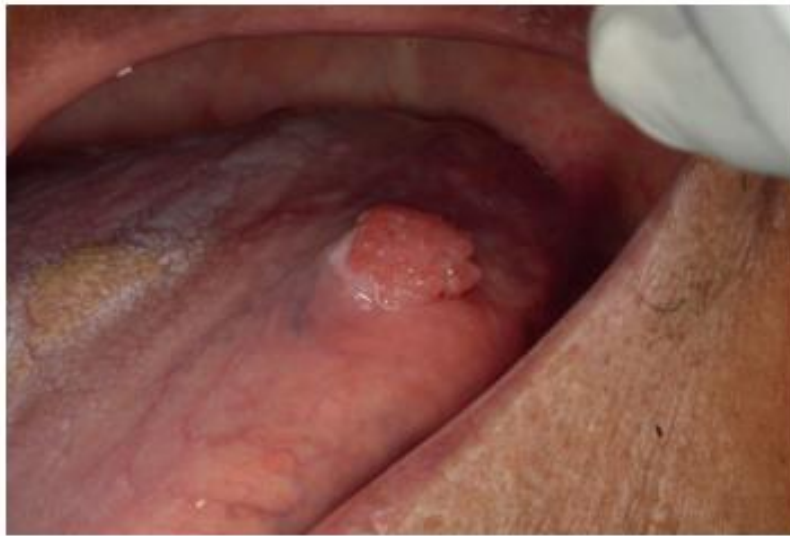


Figure 21-20 Squamous cell carcinoma of the tongue with a human papillomavirus-positive papillomatous growth.




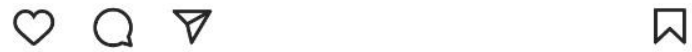
Figure 21-22 Papilloma on the gingiva.



Figure 21-18 Human papilloma virus–related warts on the oral mucosa.

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Management :

- typically using complete **surgical** excision and/or **topical** drug therapy.
- **Laser** and **cryotherapy** are not recommended due to **lack of a tissue** for histopathologic evaluation and a possible **seeding** of the lesion to the surrounding tissue in the process.
- HPV **vaccines** are currently available (**preventing many anogenital cancers and HPV infections**).
- The effectiveness of HPV vaccines in preventing oral HPV infection and cancer is **unknown**.

Coxsackie Virus

- hand, foot, and mouth disease (A16) and herpangina.
- hand, foot, and mouth disease :mild prodrome followed by distribution of vesicles with an erythematous halo affecting the oral mucosa, hands, and feet.
- oral: Painful ulcerative lesions are commonly found on the hard palate, tongue, and buccal mucosa.
- The enanthem (mucosal lesions) begins as 2–8 mm erythematous papules, a short vesicular stage, and yellow-gray ulcers with an erythematous halo.

- Lesions may **coalesce** and the **tongue may become red, edematous, and painful**, interfering with oral **intake**.
- Oral lesions **heal** without treatment within 5–7 days.
- No specific treatment is necessary except for **isolation** of the patient, especially children.
- **Herpangina** : early life, with an incubation period of four days followed by an onset of fever with malaise, headache, and neck or back pain.

oral lesions: 1–2 mm **gray-white papulovesicular** lesions that progress to **ulcers** surrounded by an **erythematous halo** or rim, and the oropharynx may appear diffusely hyperemic.

- anterior tonsillar pillars, soft palate, uvula, and tonsils, and usually last for a week.
- **Common complaints** : anorexia, dysphagia, and sore throat.
- Only symptomatic treatment is necessary such as **antipyretics, analgesics, and anti-inflammatories**, if necessary

Hepatitis

- **Orofacial Manifestations and Considerations**
- serious liver damage , susceptibility to **bleeding** and contraindications of certain **drugs**
- end-stage liver disease: icterus or yellowing of the mucous membrane, including the oral cavity, due to jaundice, petechial hemorrhages and ecchymosis, palmar erythema, urticaria, gynecomastia, and spider nevi.
- **Orofacial: sialosis** affecting the parotid glands and a close relationship with **oral lichen planus**, **Sjögren** syndrome, and **sialadenitis** , **Halitosis** , **cheilitis**, **atrophic tongue**, **xerostomia**, **bruxism**

Coronaviruses

- Oral Manifestations:
- Gustatory impairment was the most common oral manifestation(45%).
- Taste disorders :38% for dysgeusia , 35% for hypogeusia, 24% ageusia
- Oral mucosal lesions :white and erythematous plaques, irregular ulcers, small blisters, petechiae, and desquamative gingivitis.
- The tongue, palate, lips, gingiva, or buccal mucosa may have been affected.



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*Thank
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