



Review Article

Insight in prevalent infectious diseases viral and dentistry

Isha Rastogi^{1,*}¹Dept. of Dental, Mayo Institute of Medical Sciences, Barabanki, Uttar Pradesh, India

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ABSTRACT

There are many diseases that affect individuals. Of these most contagious and most easily communicable are viral infections. They start with cold, cough, sneezing and influenza conditions. If proper precautions are not taken they are spread from person to person. These viral diseases have dental/oral lesions. If dentist are aware of these, they can definitely early diagnose and treat them. It is essential that viral diseases and their oral lesions are examined so that necessary steps can be taken. In last 2 years, some viral infections have come up that need correct treatment planning for great success.

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1. Introduction

Infections or diseases are present in the environment and around us. They can be of bacterial, viral and fungal origin. Here we focus on viral diseases and their orofacial presentation.

Although many dentists diagnose and manage these oral infections, still the specialist dentist has a multidisciplinary approach in these diseases.¹ Also Immunosuppression plays a vital role.² It has been seen that mostly in the tongue, lips and palate these oral infections occur.³ In this we discuss oral presentation in prevalent viral diseases like HIV AIDS, herpes, covid, chikangunia and dengue fever.

2. Prevalent Viral Infections and Their Oral Presentations

2.1. HIV AIDS oral presentation

All infections (bacterial, viral, fungal), tumours, neurological disorders, recurrent aphthous ulcers, necrotising ulcers, dry mouth, delayed wound healing

toxic epidermolysis, idiopathic thrombocytopenia is seen.⁴

2.2. Herpes oral presentation

Recurrent herpetic orolabial lesions are primary gingivostomatitis, oral ulceration, recurrent herpes labialis.⁵ Also called as fever blister or cold sore. It is most common HSV 1 infection and seen around vermilion border and its surrounding skin area.⁶

2.3. Covid 19 coronavirus oral presentation

Aphthous stomatitis with crusting or ulceration is seen mostly as single or multiple punched out ulcers surrounded by erythematous halo and covered by a yellowish membrane.^{7–12} Also Xerostomia, oral ulceration, papules, vesiculobullous lesions, dysguesia and erythematous macules and acute sialadenitis are seen.^{13–17} Understanding the orofacial manifestations of covid 19, by dentists is early detection of the disease and prevention of transmission.¹⁸

* Corresponding author.

E-mail address: excellent123@gmail.com (I. Rastogi).

2.4. Chikangunia and oral manifestations

Oral mucosa is involved with multiple oral ulcers, cheilitis along with erosions.¹⁹ Also oral thrush candidiasis, pain, burning in oral mucosa, gingivitis, TMJ disorders (arthralgia), dysguesia and some opportunistic infections are seen.²⁰ It was also reported that painful oral ulcers with dysphagia increased morbidity in patients.²¹ Also the presence of distaste or dysguesia is reported in 75% to 85% of patients.²² It was seen that minor multiple aphthous ulcers occurred which involved whole oral cavity, especially the palate and the tongue.^{23,24}

2.5. Dengue fever oral presentation

It was seen that more oral presentation as vesicles on palate and lip, oral thrush, dysphagia, gingivitis, osteonecrosis of the dent alveolar structure and jaw, erythema, lingual hematoma occurred in dengue high fever more than dengue fever classic.^{25,26} WHO described gingival bleeding as the non-specific finding of the disease.²⁷ Also erythema, ecchymosis, petechiae is seen in soft palate and tongue.^{28,29}

2.6. Monkey pox oral presentation

Oral manifestations of monkey pox are described as vesicular or pustular lesions. After the rupture of the vesicle or pustular, the ulceration takes place. The lesions in patients with monkey pox may resemble those of viral infections that involve the oral cavity, including HSV infection, herpes zoster, chickenpox, measles, hand-foot and mouth disease, HPV infection, and covid 19. Oral lesions in HSV infection are mainly vesiculobullous lesions.³⁰

2.7. Herpetic whitlow

It is an occupational health hazard for dental professionals, seen as finger infection and caused by herpes simplex virus type 1 nearly sixty percent or type 2 as forty percent. Usually it affects thumb sucking children, medical and dental staff or hairdressers.³¹ It is a danger for dental, medical and nursing personnel. Contact with oral secretions and lesions results in herpetic whitlow.³² In healthcare providers, the cause is herpes simplex virus I and in general population, the more frequent cause is herpes simplex virus II.^{33,34} Wearing rubber gloves is recommended to those staff who suffer from these lesions.³⁵ Young dentists are also at increased risk to contact the virus compared with the general population because they treat patients with active lesions.³⁶ More typically these infections follow a primary orofacial infection.³⁷

3. Discussion

These viral infections being extremely contagious need some extra precautions by the dentist specially a prosthodontist. Prosthodontists contract viral infections

more because they execute rehabilitation prosthesis procedures from dental to maxillofacial patients of all age groups.³⁸ Infection control is using apt procedures to limit infection in dentists, dental office, dental office staff, dental technicians and patients.³⁹

Dentists are at very high risk of acquiring the infection because of the involvement of oral fluids, aerosol generation, and exposure to the blood. Hence, personal protective equipment ppe and other disinfection protocols need to be followed.⁴⁰ Dental team needs to update their knowledge and use of new approaches such as teledentistry whenever possible to manage patients and to avoid the risk of cross infection.⁴¹

Blood borne diseases Bbd (HIV AIDS, hepatitis, tuberculosis, syphilis) need some special prevention protocol by dentists. Also before admission in any dental college or health professional course, a certificate or evidence of vaccination, immunization (specially covid) must be made mandatory.^{42,43} Dental professionals are at high risk because percutaneous injuries (highest in orthodontists) and blood splashes (highest in oral surgeons) to the eyes, nose and mouth occur frequently during dental treatment.⁴⁴ Also if patients or dentists face life threatening situation then therev can be medico legal case in court, followed by negative media coverage, financial loss, compensatory charges and if extremely adverse then blacklisting or de licensing of the practitioner.⁴⁵ If needed, oral biopsy and lab investigations should be done.⁴⁶ Also these viruses like HPV (human papilliloma) is seen to be a causative agent of oral carcinoma SCC of head and neck region.⁴⁷ Oral cavity is said to be a source of inflammation, infection, that results in adding to the disease burden, and deterioration to the overall health and well-being of patient.⁴⁸ The four landmark dental infections are dental caries, periodontitis, Perimplantitis, and apical periodontitis.^{49,50} These are most common dental diseases which are seen in patients. However, prevalent viral diseases that cause severe orofacial manifestations need due consideration regarding the present Indian scenario.

4. Conclusion

In past 2 years in our country we have seen viral diseases as covid 19 specially causing death. The government of India had to impose lockdown and other restrictions to limit the deterioration caused by these viral diseases. Again nowadays HIV AIDS, dengue, chikangunia, monkey pox, herpes, blood borne viral diseases have come in recent news. Attempt is to be made by dentists to save themselves from these viral diseases. Also if dentists are aware of oral presentation of viral infections in mouth of patients, it will be a blessing indeed. Dentistry is greatly affected because these viral diseases have oral lesions which have to be considered and diagnosed at the earliest as possible.

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6. Conflict of Interest

None.

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Author biography

Isha Rastogi, Associate Professor  <https://orcid.org/0000-0003-4299-8035>

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