

Type of article- Review article

Title of the article- Oral parasitic infection- A short review

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ORAL PARASITIC INFECTION- A SHORT REVIEW

ABSTRACT

The human oral cavity hosts various microorganisms such as bacteria, virus, fungi and parasites. Parasites includes various protozoan and worms which may infect human and causes parasitic diseases. Parasitic infections can be caused by three types of organisms: protozoa, helminths and ectoparasites.

Key words;-

1. INTRODUCTION

The mouth becomes the entry port for many parasites. All parasites does not abode the oral cavity except few organisms such as Entamoeba gingivalis and Trichomonas tenax, which can turn into opportunistic pathogens. E. gingivalis, are usually harmless commensals. It is commonly associated with poor oral hygiene and they are common in people with low standard of living A protozoan flagellate Leishmania – can severely affect the human oral cavity indirectly by causing granulomatous growth disfigurations involving the mouth and nose.

2. PARASITIC INFECTIONS

Entameoba gingivalis

Entamoeba gingivalis is a cosmopolitan amoebae present in the oral cavity. It may be found on the surface of teeth and gingival, in interdental spaces, carious lesions, gingival pockets and in dental plaque. The infective forms are trophozoites and the size is usually 2 to 4 micrometer in diameter⁽¹⁾. Entamoeba gingivalis may be also found in contaminated water and food and they have pseudopodia that allow them to move quickly. There are numerous food vacuoles containing cellular debris, blood cells and bacteria⁽²⁾. Age, oral hygiene and dental caries are the factors affecting the pathogenicity of the disease⁽¹⁾.

Metronidazole is the usual treatment for protozoal infections caused by Entamoeba. The recommended dosage for oral infections is 400 mg three times daily for 1 week, Proper oral hygiene should be maintained to prevent this disease.

Trichomonas tenax

Trichomonas tenax, an anaerobic motile-flagellated protozoan play a role in the pathophysiology of periodontal diseases. It measures 12–20 µm long and 5–6 µm wide organism and is either ellipsoidal or

ovoid in shape. The prevalence of *T. tenax* in periodontal tissues is higher in adolescents than in young children. In adult populations, gender does not seem to correlate with *T. tenax* prevalence while age may impact the occurrence. Indeed, it has been suggested that periodontal tissues of patients over 40 years old are more infected by *T. tenax*

Oral trichomonads are sensitive to anti-parasitic treatment. After 3 days of treatment, oral clinical signs had disappeared, and titration of antibodies was normalized by months 6–12 after treatment⁽³⁾.

Leishmaniasis

Leishmaniasis is an infection by protozoans of the genus *Leishmaniae*. The incidence is increased due to immune depression secondary to chronic illnesses, neoplasms, immunosuppressive treatments, transplants, and HIV infection^(4,5). It occurs in three clinical forms—cutaneous, mucocutaneous, and visceral⁽⁵⁾. The males to females is in the ratio of 2 : 1. Oral mucosa is the second most frequently affected site of the head and neck region in the immunocompromised patients. In the oral cavity, tongue is the most affected site. If not treated properly it may disfigure the patient because of chronic local destruction of the tissues of the nose, pharynx, and palate.



The treatment of choice in all clinical forms of leishmaniasis is the administration of antimonial drugs such as meglumine antimoniate (Glucantime) and sodium stibogluconate (Pentostam). Generally, mucosal involvement develops 1–5 years after the healing of cutaneous leishmaniasis but in certain cases both mucosal and skin may coincide⁽⁶⁾.

Oral Myiasis

Myiasis is a rare condition arising from the invasion of body tissues or cavities of living animals or humans by maggots or larvae of certain species of flies. This is frequently seen in rural areas, infecting livestock and pets such as dogs and cats⁽⁷⁾. Gingival myiasis may occur in an unconscious or sleeping person when the mouth is left open. Periodontal disease of the oral cavity, with pockets, provides a perfect environment for the eggs to hatch and for the larvae to grow in the warm and moist conditions^(8,9).



Topical asphyxiation drugs is used which forces the larvae to come out. The cavity does not heal properly and can also become chronically infected if all the larvae is not removed properly.

Hydatid cyst

Hydatid disease or cyst is a parasitic infection caused by the cestodes of genus, hence also known as Echinococcosis⁽¹⁰⁾. The infestation is by direct contact with dogs commonly and ingestion by food contaminated with dog feces. It is said to be acquired usually in childhood. It is estimated that about 1–2% manifest in the head and neck region, involving the parotid and submandibular glands, tongue, maxillary sinus⁽¹¹⁾. Hydatid cysts are characteristically slow growing and asymptomatic benign cystic lesions which

affects both men and women in equal proportions⁽¹²⁾. In the maxillofacial region, it accounts for only 2% of hydatid infections of the body⁽¹³⁾.

A combination of praziquantel, albendazole, and mebendazole are used against *E. granulosus*. Albendazole postoperatively for 1-month is usually suggested according to the WHO guidelines⁽¹⁴⁾. Complete surgical removal of the cyst is the single effective treatment for hydatid cyst. Surgical pads soaked with 1.5% cetrimide and 1.5% of chlorhexidine gluconate can also be used⁽¹⁵⁾. The prognosis is excellent in cases treated by removal of cyst totally without rupture.

3. CONCLUSION

Comparatively few parasites affect the oral cavity, but certain literature claims that oral protozoa are more common than previously appreciated. *E. gingivalis* is possibly less common in dental practice than *T. tenax*, but there are indications that it produces more severe, progressive periodontal disease in immunocompromised patients. Among systemic parasitic infections, only the protozoan flagellate *Leishmania* can produce clinical symptoms affecting the oral cavity. Good oral hygiene is to be practised and the treatment should be appropriate in order to eradicate the parasitic infections.

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