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Review Article

Vincent's Angina

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Abstract

Vincent's angina is an acute infection of the gum (gingiva) of oral cavity, caused by bacteria mainly belonging to the genus *Borrelia*, as also other genera. It can be a deadly infection. Infections were reportedly more during second world war but are rare now. Care should be taken for prompt diagnosis and treatment of these cases. Dentists and Laboratory people should work together for prompt diagnosis and treatment of these cases.

Keywords: Vincent's angina; gum; gingiva; tooth margins

Introduction

Vincent's angina is known by various names like Acute necrotising ulcerative gingivitis or Trench Mouth [1]. is an acute and painful infection of the tooth margins and gums which is caused by the usually symbiotic bacteria *Bacillus* fusiformis and *Borrelia* vincentii that sometimes turn pathogenic [2]. It is caused mostly by *Borrelia* vincentii. It was first described by Plaut in 1894 and Vincent in 1896 [3].

Materials and methods

Figure 1: Vincent's angina showing ulcers in the gum. Source: healthjade.net).

Thorough and meticulous scientific literature search was done to delineate information about this disease.

Epidemiology of Vincent's Angina: It is mostly seen in young adults but may also be found in children during their first dentition.

Causative agents

While *Borrelia* is an established causative agent, fusiform bacteria (Fusobacterium necrophorum and *Bacillus* fusiformis) could also be important for causing Vincent's angina [1]. Predisposing factors have also been suggested to be important for the infection, like smoking, poor nutrition, advanced age, alcoholism and poor oral hygiene [1]. Vitamin deficiencies and emotional stress are also possible predisposing factors behind this infection [2].

Clinical features

Vincen't angina usually begins as a shallow ulcer on the gums or gingiva. It is followed by ulcers in pharynx and bleeding gums. The ulcers are small and painful, and most commonly found in teeth and adjoining gums(3).Ulcers are shown in Figure 1 below. A grey pseudo membrane may form over the ulcerated areas. Then the necrosed tissues may finally fall off. There is almost always Halitosis or bad breath. There may be otalgia or pain in the ears, and also a choking sensation, and hence it is called "Angina". Characteristically, teeth and the tonsillar arear are involved more, whole larynx and trachea are very rarely involved [4]. Fever and

malaise may be present. Regional lymphadenopathy may also be found [5]. Very rarely, fingers of man can be involved following bite by another infected person [4]. Complications: If it is untreated , the infection may lead to rapid destruction of the periodontal tissues and can spread, as necrotizing stomatitis, into the adjacent tissues of the cheeks, lips or the bones of the jaw. Vincent's angina, if left untreated, progresses rapidly to

a) Necrotizing Ulcerative Periodontitis - It is the destruction of the periodontal ligament and the underlying bone structure or alveolar bone, causing tooth mobility and tooth loss.

b) Cancrum Oris or Noma- It is a devastating and fatal form of orofacial gangrene infection.

Vincent's angina can be particularly dangerous in individuals with weakened immune system [2]. There are well-described cases of brain abscess developing due to Vincent's angina following tooth extraction [4]. Infections may also spread rarely to the intestine or bronchial tree, and such cases have been rarely found.

Pathogenesis

Early in the disease, the fusiform bacteria predominate, while later on the spiral bacteria seem to be more important for virulence [4]. An imbalance or increase in fusiform anaerobic bacteria and *Borrelia* are believed to be important for the disease. Differential diagnosis: Jaw actinomycosis is a close differential diagnosis, and so is pharyngeal and tonsillar diphtheria. However, the pseudomembrane in diphtheria is more superficial while in Vincent's angina it is form and deep. Herpetic gingivostomatitis is also a differential diagnosis. The papillary necrosis typical for ANUG or Vincent's angina is absent in the herpetic infection, whereas herpetic lesions create a typically "punched-out" appearance located at the gingival margin. Scurvy or Vitamin C deficiency is another close differential diagnosis.

Laboratory diagnosis

A Gram stain of the smear from the affected area may yield diagnosis by showing the spiral bacteria or Gram negative fusiform rods. However, these may be inclusive because they may also be present in mouth cavity of normal persons. Also, Wassermann or Kahn tests can be done for the *Borrelia* spp [3].

Treatment

Surgical debridement needs to be done gently. Along with this, rinses at hourly intervals with warm normal saline or with 1.5% hydrogen peroxide or 0.12% chlorhexidine, twice a day might be helpful during the first few days after initial surgical debridement [2]. Penicillin has to be administered for bacteriological cure [3]. Hence, the mainstay of treatment is Penicillin and Metronidazole which are commonly used systemically, along with an oral antiseptic rinse such as chlorhexidine [6]. When Penicllin cannot be used, Tetracycline or Erythromycin have been advised. Sometimes, discontinuation of antibiotics and simple rinsing of mouth with warm saline and Chlorhexidine may also be curative [7].

Prevention

The infection can be best prevented by proper oral hygiene and regular proper teeth brushing [3].

Discussion

In his 39th letter dated 17th September 1683, Leeuwenhoek perhaps unknowingly vividly described the microorganisms causing vincent's angina (spirochaetes).Vincent, in 1896, found the spirochates to be present in majority of the gangrene and angina cases in Vincent's angina [8]. This is an age-old disease. Cases have been described since the 4th century BC, although the general prevalence was low [9]. Vincent's angina, though believed to be an old disease, is still reported in children and young adults, which highlights the need of dentists and laboratory scientists to be ever vigilant about this disease. These pathogens are possibly secondary invaders after infectious mononucleosis, poor oral hygiene, malnutrition, other childhood illnesses and childhood leukemia. Dentists, otorhinolaryngology specialists and microbiologists should work in tandem in this regard to prevent these cases or treat them early.

Conclusion

ANUG or Vincent's angina is an age-old disease, and one needs to be vigilant to prevent or treat this infection early in children and young adults in order to prevent deadly complications and death.

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