Management strategies of necrotizing ulcerative periodontitis

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INTRODUCTION

Necrotizing ulcerative periodontitis (NUP) is a severe inflammatory periodontal disorder caused by bacterial plaque and usually follows an acute course.[1] The pathognomonic clinical feature of NUP is the destructive progression of the disease that includes periodontal attachment and bone loss. The distinguishing features of NUP are the punched out appearance and interproximal craters that may be covered by pseudomembranous necrotic tissue. The ulcerations are extremely painful and show spontaneous bleeding. An important feature of NUP is the rapid and severe loss of clinical attachment and alveolar bone in few days or weeks. Other clinical features include the presence of oral halitosis, adenopathies, fever, and general discomfort. Methodology: A Medline literature search was conducted on the management of NUP. The articles ranging from 1988 to 2016 were searched. 14 articles were relevant to this review article of 43 articles that were searched. Conclusion: Early diagnosis and treatment planning is crucial in treating necrotizing periodontal diseases. In human immunodeficiency virus/acquired immunodeficiency syndrome patients, the lack of oral hygiene, plaque accumulation, and reduced CD4 counts increase the risk factor for periodontal diseases and other opportunistic infections.

DISCUSSION

NUG, NUP, and necrotizing ulcerative stomatitis are severe periodontal diseases that have an acute course. The features of NUG consist of areas of ulceration and necrosis of the interdental papilla covered by a whitish-yellow pseudomembrane and surrounded by erythematous halo. The lesions are painful, bleed easily and the patients also present with oral malodor, localized lymphadenopathy, fever, and malaise. The bacterial flora commonly associated with NUG lesions are Prevotella intermedia, Treponema, Selenomonas, and Fusobacterium species.[3] Approximately 43 articles ranging from 1988 to 2016 were searched, of which 14 articles were relevant to this review.

KEY WORDS: Acquired immunodeficiency syndrome, Gingival bleeding, Human immunodeficiency virus, Necrotizing ulcerative gingivitis, Necrotizing ulcerative periodontitis

ABSTRACT

Aim: The aim of this study was to review the various literature on the signs and symptoms, diagnosis, investigation, and treatment of necrotizing ulcerative periodontitis (NUP). Background: NUP is the most severe inflammatory periodontal disorders caused by bacterial plaque and usually run an acute course. Clinical features in NUP are characterized by the presence of punched out, ulcerated and necrotic lesions that may be covered by a pseudomembrane of necrotic tissue. The ulcerations are extremely painful and show spontaneous bleeding. An important feature of NUP is the rapid and severe loss of clinical attachment and alveolar bone in few days or weeks. Other clinical features include the presence of oral halitosis, adenopathies, fever, and general discomfort. Methodology: A Medline literature search was conducted on the management of NUP. The articles ranging from 1988 to 2016 were searched. 14 articles were relevant to this review article of 43 articles that were searched. Conclusion: Early diagnosis and treatment planning is crucial in treating necrotizing periodontal diseases. In human immunodeficiency virus/acquired immunodeficiency syndrome patients, the lack of oral hygiene, plaque accumulation, and reduced CD4 counts increase the risk factor for periodontal diseases and other opportunistic infections.

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There is a shift in oral disease reported significantly produces eicosanoids and invasion, thus promoting the development of mediators which facilitate spirochete colonization which result in the release of pro-inflammatory microorganisms. In the colonization and activity of other pathogenic disease. Local immune response and facilitates necrotizing host inflammatory response. This results in decreased host innate and adaptive immunity and stimulate the local immune response. Immunodeficiency Virus (1993), periodontal diseases are due to the increased systemic cortisone levels which have a suppressive action on immune response. However, evidence supporting the etiological role of stress on the pathogenesis of NUP is not clear.

Diagnosis

The diagnosis of NUP is based on the clinical presentation of the disease. The characteristic features of NUP are punched out lesions and interdental craters, attachment loss, bone loss, mobility of the affected teeth, oral malodor, pain (mostly felt deep within the bone), and, in severe cases, localized lymphadenopathy.

Studies have shown that 40% of HIV-positive patients exhibited one or more HIV-associated oral manifestations and these rates increased to over 90% when the patient reaches late stages of immunosuppression caused due to the infection. Candidiasis and oral hairy leukoplakia are the most common oral lesions seen in HIV-positive patients. According to EC-Clearinghouse on Oral Problems Related to HIV Infection and WHO Collaborating Centre on Oral Manifestations of the Immunodeficiency Virus (1993), periodontal diseases are classified under oral manifestations of HIV. The classification consists of linear gingival erythema, NUG, and NUP.

Treatment

The objective of the treatment in the acute phase should be pain relief and rapid elimination of the disease. Hydrogen peroxide and other oxygen-releasing agents are used in the treatment of necrotizing periodontal diseases due to the effect of the released oxygen on the anaerobic bacteria. 3% hydrogen peroxide is used to clean the necrotic
tissue in the form of oral rinses (equal proportions of 3% hydrogen peroxide and hot water). A recent study has reported shallower residual probing depths and less attachment loss, with periodontal pathogenic bacteria more frequently eliminated when treated with oxygen therapy (5 L oxygen/min for 15 min 3 times a day for 10 days) and supplemented with systemic administration of metronidazole (500 mg) and co-amoxiclav. Oral rinsing with 0.2% chlorhexidine gluconate twice a day is an effective measure for chemical plaque inspection. Its use is, however, highly dependent on thorough professional tooth cleaning since chlorhexidine does not penetrate subgingivally and is quickly inactivated by exudate, necrotic tissue, and bacteria. The condition of the patients should be monitored continuously until the acute symptoms have abated.

Maintenance treatment begins once the acute phase is over. After the necrotic tissue has healed, the size of the craters will be diminished and some large craters that the patient is unable to clean easily have a risk for relapse. Shallow craters can be eliminated with gingivectomy and larger craters can be eliminated by flap surgery. Extensive surgical interventions should be avoided in patients who are HIV positive or have AIDS due to poor healing.

CONCLUSION

Early diagnosis, immediate periodontal therapy, and proper oral hygiene practices are essential in treating NUP. The higher incidence of NUP in HIV/AIDS patients highlights the importance of oral examination and thus increases the role of the dentist in diagnosis and screening of HIV/AIDS patients.

REFERENCES


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