CASE REPORT ON AGGRESSIVE PERIODONTITIS WITH STREPTOCOCCAL GINGIVITIS

Gaurav Solanki
Jodhpur National University,
Jodhpur-324003, (Rajasthan) India

ABSTRACT

Acute streptococcal gingivitis is an acute inflammation of the oral mucosa and also seen with the other oral diseases as aggressive periodontitis that is characterized by a considerable attachment loss over a short period of time. Streptococcal infections of gingiva are seen rarely; also the origin of this gingival inflammation is occasionally different from that of routine plaque-associated gingivitis. This case report describes a patient who presented with severe gingival inflammation and attachment loss that was diagnosed as an acute streptococcal infection associated with aggressive periodontitis. A case of aggressive periodontitis with streptococcal gingivitis was reported which was diagnosed treated with no postoperative complications.

Keywords: Acute streptococcal gingivitis, Aggressive periodontitis, Gingival inflammation, Attachment loss.

INTRODUCTION

Acute streptococcal gingivitis is an acute inflammation of the oral mucosa and the pathogens implicated in gingival inflammation is rarely different from that of routine plaque-associated gingivitis such as Treponema pallidum, Neisseria gonorrhea and recently streptococci infections1,2. Streptococci, which can be seen in the composition of microbial dental plaque, may cause inflammatory periodontal disease and dental caries3. Although the streptococci related disease of gingiva has very specific microbiological and clinic features, there have been only a few cases reported in the literature. Another significant feature of streptococcal gingivitis is that it can be seen on gingiva with the other inflammatory diseases like throat inflammations4,5.

CASE HISTORY

The patient, a 35-year old male came with complain of dentist severe bleeding gums, gingival hyperplasia, and halitosis. The patient was experiencing pain, severe bleeding with brushing related to her periodontal disease. There was no significant past medical history. On examination, generalized edematous, hyperplastic gingiva, bleeding on probing and calculus formation was seen. To determine the clinical situation of the subject, gingival index,6 plaque index,7 periodontal probing depths (PPD) and clinical attachment levels (CAL) of the teeth were recorded before and after the treatment by using a manual probe. Periodontal examination revealed gingival swelling, 78.2% bleeding at probing sites, 52.7% plaque control record, and 72.9% of the sites had a periodontal pocket depth of 4 mm or more. Upon initial examination, radiographs demonstrated extensive generalized vertical intra-bony defects in the maxillary and mandibular arches. Based on the clinical and radiographic findings, a diagnosis of generalize AP was assigned to the patient. According to these findings, treatment was started with an initial phase of mechanical therapy; including systematic scaling and planning of all accessible root surfaces and the introduction of

http://www.ijdrt.com
meticulous oral hygiene. During oral hygiene instruction and subsequent initial preparation as a chemotherapeutic support tetracycline had been given to the patient with a mouth rinse including Chlorhexidine Digluconate (0.12%) and Benzidamin HCL (0.15%). And also to improve the patient’s oral and dental hygiene, a new soft toothbrush was referred for use as part of the oral care protocol. After optimal oral hygiene was provided, based on persistence of periodontal lesions, a second phase of therapy was planned and the advanced periodontal therapy, flap and gingivectomy operations were done and remaining roots were removed. After resolution of the periodontal infection, the patient was placed on an individually tailored maintenance care program including continuous evaluation of the occurrence and the risk of disease progression. However, after a week, bleeding, edema and dark red discoloration on the marginal areas of gingiva developed again. Further medical tests were carried out to look for searching an underlying systemic disease and its impact on the etiology of the disease. Because of the results were in normal limits, we suspected acute streptococcal infection. Although acute streptococcal infection was suspected because of the clinical features of the patient, for being sure bacterial sample was obtained by scraping the surfaces of the gingival lesions with a sterile chip and the anaerobic-culture technique were used to identify the bacteria. Cultures of the gingival samples grew streptococcus pyogenes and a few other microorganisms. The treatment was given accordingly and patient was treated. No post operative complications were seen.

DISCUSSION

In a revised classification system for periodontal diseases, AP was redefined to comprise a complex entity of microbial alterations and cellular dysfunctions that differentiate the underlying molecular mechanisms from chronic periodontal disease. The aggressive nature of this disease process is due in part to A. actinomycetemcomitans, which is regarded as the key etiological agent based on studies reporting a frequency rate of nearly 90% in periodontal lesions. There is a consensus about the method and application of the treatment for AP. Once AP has been diagnosed, a comprehensive periodontal treatment plan must be developed. The treatment of periodontal diseases is divided into four phases: systemic, hygienic, corrective and maintenance/supportive therapy. As treatment progresses through the four phases, the dentist uses both surgical and non-surgical therapy to remove biofilm created by the bacterial pathogens; this procedure is in agreement with good medical practice because the bacterial load should be reduced as much as possible prior to the use of antibiotics. The adjunctive systemic use of antimicrobials along with mechanical debridement of the root surfaces to disrupt the biofilm is effective in most patients with AP. Tetracycline that was used by most of the researchers in previous studies was chosen for chemotherapy because of its affectivity for periodontal diseases and high secretion capacity from gingival tissue. The patient was also treated according to these recommendations. Although a successful and appropriate treatment was applied to the patient according to the recommendations for AP, streptococcal inflammation increased the worsening of the oral findings present in AP. The treatment of choice for streptococci infections is penicillin. Sulfonamides and broad spectrum antibiotics have also been used to treat streptococcal infections. Recognition, identification of etiology, diagnosis of disease, and treatment of acute gingivostomatitis are critically important of untreated group A. beta-hemolytic streptococcal infection, which has many serious complications. In addition to this primary etiologic factor, other factors such as differentiation of saliva composition can foster progression of this disease. In progression of this disease like other periodontal diseases, saliva plays important roles as a disease marker and as a defense mechanism. Saliva has some antimicrobial activity against many different microorganisms. This is mainly due to the presence of immunoglobulin and non-immunoglobulin agents in its content. It also prevents the proteins and cells in oral mucosa from H₂O₂ toxicity.
physiologic concentrations and neutral pH, it prevents the bacterial glycolysis by inhibiting the pH and potentiates the antibacterial defense mechanisms as a bacteriostatic agent. The pH of saliva increases with concomitant secretion of HCO₃⁻ with saliva secretion (5.5–7.5). The most important factor for the increase of the pH is the HCO₃⁻. Even though saliva has all those beneficiary antimicrobial effects that were mentioned above, sometimes it may not be sufficient enough to kill some specific bacteria which can be available in oral pH values of 6–8 and for streptococcus species which can survive at a low pH and to continue producing acid. In conclusion, using an antacid agent may prove to be useful as an indicator of environmental conditions in the oral cavity, and as a determinant of treatment model among oral streptococci.¹⁵

**CONCLUSIONS**

Although various advanced diagnostic and treatment modalities have emerged in the management of aggressive periodontitis, the conventional techniques retain their popularity to date. A case of aggressive periodontitis with streptococcal gingivitis was reported which was diagnosed treated with no postoperative complications.

**REFERENCES**