

Aggressive Periodontitis: A Case Report

Abstract

Periodontal diseases range from benign gingivitis to chronic & aggressive forms of disease. Gingival - Periodontal diseases include a set of pathologies that affect the protective and insertion tissues of teeth. Periodontitis is an inflammatory condition of supporting tissues of teeth. The onset of periodontal disease is caused by the presence of biofilm and metabolic products of microorganism involved. Periodontitis currently is recognized in two principal forms: chronic (CP) and aggressive periodontitis (AgP). Aggressive periodontitis is much severe form of periodontitis (formely termed as early onset periodontitis, localized juvenile periodontitis). Aggressive periodontitis usually appears early in life, this shows etiological agents are capable of producing disease with in fairly short time. AP can appear at any age, its correct diagnosis requires exclusion of systemic disease that can severely deteriorate host defenses and lead to premature loss of teeth. This article describes a case report of aggressive periodontitis treated in a conservative manner by combining periodontal therapy and antimicrobial treatment in a 35 year old female patient to maintain dental integrity and to restore aesthetic and functional condition.

Key Words

Periodontitis; aggressive periodontitis; periodontal therapy; antimicrobial therapy

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INTRODUCTION

Aggressive periodontitis was formely known as juvenile periodontitis. Aggressive periodontitis (AgP) is a particularly severe form of rapidly destructive inflammatory periodontal disease characterized by loss of periodontal attachment and bone, leading to early tooth loss.^[1] Aggressive periodontitis usually appears early in life, this shows etiological agents are capable of producing disease with in fairly short time. AP can appear at any age, its correct diagnosis require exclusion of systemic disease that can severely deteriorate host defenses and lead to premature loss of teeth.^[2] The sites most commonly affected show insertion loss mostly in the area of first molars and incisors.^[3] Aggressive periodontitis displays a strong genetic influence and shows familial and racial aggregation.^[4] Periodontal inflammation increases the hydrostatic and hydrodynamic forces surrounding veins and tissues, resulting in dental displacement and malposition of teeth which can be seen as excursion or labial displacement of incisors leading to compromised esthetics of patient.^[5]

Symptoms like tooth mobility, pathologic migration of central incisors, increased tooth sensitivity, pain during mastication, periodontal abscesses are commonly seen. These symptoms have physical, psychological and esthetical impact on the patients.^[4] In past the prognosis of periodontal compromise teeth was considered very bad, so usually the treatment was more concentrated on tooth extraction. Currently mechanical therapies with or without surgery, controlling plaque and local or systemic antimicrobial agents implementation have improved the prognosis of periodontally compromised teeth.^[6] This case report describes a case of aggressive periodontitis treated in a conservative manner by combining periodontal therapy and antimicrobial treatment in a 35 year old female patient to maintain dental integrity and to restore aesthetic and functional condition.

CASE REPORT

A 35 year old female patient reported to the Department of Periodontology of Maharana Pratap College of Dentistry & Reserch Center, Gwalior



Fig. 1: Showing facial profile of patient



Fig 2: Showing Anterior Gingiva



Fig 3 : Showing the Pre Surgery



Fig 4: Intra operative



Fig. 5: Suture placed



Fig. 6: Post-operative OPG

with chief complaint of loosening of teeth in her upper right back teeth region since six months. Her medical history appeared non-contributory, and she has no history of taking any medication, referred no allergies and had no history of episodic illness or orofacial trauma. There is no history of tobacco chewing or cigarette smoking or any other deleterious habit associated. The clinical oral examination revealed a full permanent dentition, with only missing maxillary left 2nd and 3rd molar and right mandibular 2nd molar, heavy plaques and calculus (Grade ++), accumulation, severe gingival inflammation gingival recession in maxillary right 2nd molar, attrition in maxillary and mandibular anteriors from right side canine to left side canine, furcation involvement in maxillary right second molar (Based on Glickman classification). There was bleeding on probing in mandibular and maxillary anteriors. Periodontal pockets measured between 5-7 mm for all posterior teeth in maxillary and mandibular arch. Halitosis present, one degree mobility was seen in maxillary right first and

second premolar and maxillary left second premolar and first molar and mandibular right first molar and left third molar, second degree mobility was seen in maxillary right first and second molar and mandibular right third molar (based on Modified Miller Index of tooth mobility). There was no evidence of caries. The panoramic X-ray revealed severe generalized horizontal bone resorption (Fig. 3). The patient was referred for a complete medical evaluation to rule out any underlying systemic disease. Her complete blood count was within normal limits, including blood sugar (random) and creatinine levels, coagulation factors, alkaline phosphatase levels. Neutrophils and Lymphocytes were slightly elevated while there was marked rise in basophil was seen. Based on clinical examination history taken and radiological examination final diagnosis was made as chronic generalized aggressive periodontitis. Due to severe bone loss, following teeth were extracted: 16, 17, 18 and 48. All the extractions were done under local anesthesia with 1:80,000 adrenaline. For the remaining teeth

scaling, root planning and surgical intervention was planned. The treatment started with Ultra sonic scaling of both maxillary and mandibular arch followed by conventional flap surgery and curettage for all the four quadrant under local anesthesia with 1:80,000 adrenaline. In maxillary right side bone graft was placed as there bone deformities were seen. The patient was placed on 500 mg Amoxicillin and 400 mg Metronidazole three times a day (every 8 hours) for 7 days. Chlorhexidene therapy (0.5 OZ rinse twice a day) was also given. Patient was recalled after 4 weeks, 3 months and 4 months for review and follow-up. In every visit pocket depth was measured using periodontal probe. Biofilm, plaque was removed and oral hygiene instructions were reinforced each time patients were seen. Her last follow-up orthopantomogram revealed good periodontal health with no bone loss. Last follow-up clinical examination also showed reduction in pocket depth from 5-7 mm to 2-3 mm. Patient overall periodontal health was satisfactory with no halitosis. For her regular follow-up was planned in every three months.

DISCUSSION

This case report describes the treatment approach to Aggressive periodontitis to help the patient in betterment of her oral condition. The most debilitating feature of the patient was mobility of her teeth due to bone loss. In this patient no bone loss was seen in follow up visits after completion of treatment. The primary feature of aggressive periodontitis include history of rapid attachment and bone loss with familial aggregation.^[7] Aggressive periodontitis can exist in two forms - Either localized or generalized. It is very important to diagnosis and differentiates between localized and generalized form of aggressive periodontitis. Localized periodontitis patients usually have interproximal attachment loss on either on atleast two permanent first molars and incisors, with attachment loss on no more than two teeth other than first molars and incisors. Generalized aggressive periodontitis patients exhibit generalized interproximal attachment loss including at least three that are not first molars and incisors.^[8] Aggressive periodontitis is seen mostly in circumpubertal age.^[8] Successful treatment of aggressive periodontitis depends on early diagnosis, directing therapy against the infecting microorganisms and providing an environment for healing that is free of infection.^[9] Chronic periodontitis is mostly seen in children and youth.

Extent of destruction is related to the presence of local factors such as plaque, biofilm and micro-organisms. Its progression is usually slow or moderate but its rate of progression can be modified by systemic conditions such as diabetes, smoking and stress.^[10] Treatment of Aggressive periodontitis include combination of surgical or non-surgical root debridement in conjunction with antimicrobial (antibiotic) therapy. Generalized aggressive periodontitis does not always respond well to conventional mechanical therapy or to antibiotics commonly used to treat periodontitis. In generalized aggressive periodontitis patients who have failed to respond to standard periodontal therapy, laboratory test of plaque samples may identify periodontal pathogens that are resistant to antibiotics typically used to treat periodontitis. The result achieved confirms that damage to bone can be controlled if active treatment begins once inflammation has been controlled. However it is also clear that failing to give special oral hygiene instructions or performing inadequate periodontal treatment will lead to further bone loss. This case report shows that surgical management along with antibiotic coverage helps in maintaining teeth with compromised periodontal health. Continuous controls and periodontal management is essential to achieve good result.

CONCLUSION

This clinical case shows that in order to improve periodontal architecture condition it is very important to maintain periodontal health by combining the mechanical and antimicrobial therapy.

REFERENCES

1. Alabandar JM, Tinoco EM. Global epidemiology of periodontal diseases in children and young persons. *Periodontol* 2000 2002;29:153-76.
2. Tonetti MS, Mombelli A. Early - onset periodontitis. *Ann Periodontol* 1999;4:39-53.
3. Hart TC, Marazita ML, Schenkein HA, Brooks CN, Gunsolley JG, Diehl SR. No female preponderance in juvenile periodontitis after correction for ascertainment bias. *J Periodontol* 1991;62:745-9.
4. Deepti G, Narpatsingh R, Anurag Ashok S. Treatment of localized aggressive periodontitis - Still an Engima. *Indian Journal of Multidisciplinary Dentistry* 2014;4(1).
5. Martinez - Canut P, Carrasquer A, Magan R, Lorca A. A study on factors associated with

- pathologic tooth migration. *J Clin Periodontol* 1997;24(7):492-7.
6. Feng X, Oba T, Oba Y, Moriyama K. An interdisciplinary approach for improved functional and esthetic results in a periodontally compromised adult patient. *Angle Orthod* 2005;75(6):1061-70.
 7. Armitage G. Development of a classification system for periodontal diseases and conditions. *Ann Periodontol* 1999;4:1-6.
 8. Gunsolley JC, Califacno JV, Koertge TE, Burmeister JA, Cooper LC, Schenkein HA. Longitudinal assessment of early onset periodontitis. *J Periodontol* 1995;66:321-8.
 9. Novak MJ, Stamatelakys C, Adair SM. Resolution of early lesions of juvenile periodontitis with tetracycline therapy alone: Long - term observations of 4 cases. *J Periodontol* 1991;62:628-33 Erratum 1992;63:148.
 10. Page RC. The pathobiology of periodontal diseases may affect systemic diseases: Inversion of a paradigm. *Ann periodontol* 1998;3:108-20.