

AGGRESSIVE PERIODONTITIS: A THREAT TO ORAL HEALTH

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ABSTRACT

The destructive nature of aggressive periodontitis makes it a significant threat to oral health and, if left untreated, it may lead to premature tooth loss, impaired mastication, esthetic problems, and even systemic complications.

The 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases no longer lists AgP as a separate category, instead classifying periodontitis into stages and grades. However, the concept of AgP remains clinically important to describe early-onset, rapidly progressive cases.

Keywords: Periodontitis, bone loss, host defence

INTRODUCTION

Periodontal diseases are one of the most common oral health conditions worldwide, fluctuating from mild gingivitis to destructive forms of periodontitis. While chronic periodontitis progresses slowly, aggressive periodontitis (AgP) constitute a more severe and alarming existence. It is characterized by rapid attachment loss, alveolar bone destruction, and onset at an early age. Despite being less prevalent than chronic periodontitis, its destructive nature makes it a significant threat to oral health and, if left untreated, it may lead to premature tooth loss, impaired mastication, esthetic problems, and even systemic complications.

DEFINITION AND CLASSIFICATION

Aggressive periodontitis is defined as a rapidly progressive periodontal disease that affects otherwise healthy individuals and shows a familial pattern. According to the 1999 American Academy of Periodontology (AAP) classification, it was distinguished into:

Localized Aggressive Periodontitis (LAgP): Primarily affects first molars and incisors, with rapid bone loss. Generalized Aggressive Periodontitis (GAgP): Involves multiple permanent teeth other than first molars and incisors, with generalized attachment loss. The 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases no longer lists AgP as a separate category, instead classifying periodontitis into stages and grades. However, the concept of AgP remains clinically important to describe early-onset, rapidly progressive cases.

EPIDEMIOLOGY

Aggressive periodontitis affects 0.1–15% of the population worldwide, with higher prevalence in adolescents and young adults. Ethnic and geographic variations are evident, with

higher occurrence reported in African and Middle Eastern populations. Both males and females can be affected equally.

ETIOLOGY AND RISK FACTORS

The development of aggressive periodontitis is multifactorial, involving microbial pathogens, host immune response, genetic predisposition, and environmental influences.

Microbial Factors

The primary pathogen is *Aggregatibacter actinomycetemcomitans*, strongly associated with localized forms. Other key bacteria include *Porphyromonas gingivalis* and *Tannerella forsythia*.

Host Immune Response

Patients often present with defective neutrophil function (chemotaxis and phagocytosis). Hyperactive macrophages release excessive inflammatory cytokines, accelerating tissue destruction.

Genetic Susceptibility

Familial clustering is common, suggesting heritable traits. Polymorphisms in immune response genes may increase vulnerability.

Environmental and Behavioral Factors

Smoking significantly worsens severity and progression.

Poor oral hygiene and socioeconomic factors may exacerbate the disease, though destruction often appears disproportionate to plaque levels.

CLINICAL FEATURES

Aggressive periodontitis can be differentiated from chronic forms by distinct clinical characteristics:

Early Onset: Usually in teenage years or early adulthood.

Rapid Progression: Accelerated loss of attachment and bone over a short period.

Localized vs. Generalized Forms: LAgP affects first molars and incisors, while GAgP involves multiple teeth. Minimal Deposits: Plaque and calculus levels appear inconsistent with severity. Familial Pattern: Positive family history is common.

Symptoms: Patients may remain asymptomatic until advanced stages, when tooth mobility, migration, and abscesses occur.

Radiographic Features

Vertical bone defects around molars and incisors. Arc-shaped bone loss in localized forms. Widespread destruction in generalized forms.

DIAGNOSIS

Age of onset. Rapid attachment and bone loss. Clinical-radiographic correlation. Family history of periodontitis. Microbiological and genetic testing may assist but are not routine in everyday clinical practice.

MANAGEMENT AND TREATMENT

The treatment of aggressive periodontitis must be comprehensive and multidisciplinary:

Non-Surgical Therapy

Scaling and root planing. Patient education and oral hygiene instruction. Antimicrobial Therapy includes Systemic antibiotics (e.g., amoxicillin + metronidazole) are highly effective when combined with mechanical therapy. Chlorhexidine rinses provide local antimicrobial support.

Surgical Therapy

Necessary for deep pockets and bone defects. Regenerative procedures (guided tissue regeneration, bone grafts) may be attempted.

Maintenance Phase

Regular recall appointments (every 2–3 months initially). Long-term supportive therapy is essential to

prevent recurrence.

Risk Factor Control

Smoking cessation programs.

PROGNOSIS

Prognosis depends on early diagnosis, effective therapy, and patient compliance. With proper care, progression can be controlled, but untreated cases often result in early tooth loss. Long-term follow-up is essential, as relapse is common in non-compliant patients.

CONCLUSION

Aggressive periodontitis is a swiftly destructive ultimatum to oral health, peculiarly among younger populations. Its unique combination of rapid progression, familial tendency, and disproportionate clinical presentation makes it distinct from chronic periodontitis. Awareness, early diagnosis, and comprehensive management are crucial in preventing irreversible damage. By integrating mechanical therapy, antimicrobials, surgical interventions, and strict maintenance, clinicians can significantly improve patient outcomes and preserve oral health.

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