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Original ARTICLE

Assessment of risk factors of chronic and aggressive periodontitis in a known population

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ABSTRACT
Background: Periodontitis is an inflammatory disease of the supporting tissues of the teeth caused by specific microorganisms or groups of specific microorganisms, resulting in progressive destruction of periodontal tissues. The two main entities are chronic periodontitis and aggressive periodontitis. Hence; the present study was conducted for assessing risk factors of chronic and aggressive periodontitis in a known population. **Materials & methods:** Samples size of the present study was 200 and was as follows: Chronic periodontitis patients: 100 patients, and Aggressive periodontitis patients: 100 patients Complete demographic and clinical data of all the patients was obtained. Clinical examination of all the patients was carried out and detailed clinical and past medical history was obtained. A questionnaire was obtained and was given to all the subjects. Questionnaire contained detailed information pertaining to risk factors of periodontitis. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. **Results:** Significant results were obtained while comparing the mean age of the patients of both the study groups. Majority of the patients of the aggressive periodontitis group were students while majority of the patients of the chronic periodontitis group were employed subjects. Significantly higher proportion of patients of chronic periodontitis group were smokers where is significantly higher proportion of patients of aggressive periodontitis group were non-smokers. **Conclusion:** Aggressive periodontitis manifests mainly in younger population whereas aged individuals are more susceptible for chronic periodontitis.
Key words: Chronic, Aggressive, Periodontitis

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INTRODUCTION

Over the past 20 years, it has been proven that periodontitis is the result of interaction between host's defense mechanisms and biofilms containing complexes. Research regarding carriers of the disease is a topic of research these days. The disease does not occur till the natural balance between the host and pathogen gets disturbed. Environmental influences and an opportunistic increase in the number of organisms lead to such disturbances.[1]

Periodontitis is an inflammatory disease of the supporting tissues of the teeth caused by specific microorganisms or groups of specific microorganisms, resulting in progressive destruction of periodontal tissues. The two main entities are chronic periodontitis and aggressive periodontitis. The major risk factors for periodontitis are smoking, diabetes, and specific periodontal pathogens. In cases of chronic periodontitis, there is no consistent pattern to the number and types of teeth involved. The disease can be localized to a few teeth or can affect the entire dentition. In cases of generalized aggressive periodontitis, most permanent teeth are usually affected. There are no evidence-based criteria to determine when a localized periodontal infection becomes generalized.[2- 5] Hence; the present study was conducted for assessing risk factors of chronic and aggressive periodontitis in a known population

MATERIALS & METHODS

The present study was conducted with the aim of assessing the risk factors of chronic and aggressive periodontitis. Samples size of the present study was 200 and was as follows:

- Chronic periodontitis patients: 100 patients, and
- Aggressive periodontitis patients: 100 patients

Complete demographic and clinical data of all the patients was obtained. Clinical examination of all the patients was carried out and detailed clinical and past medical history was obtained. A questionnaire was obtained and was given to all the subjects. Questionnaire contained detailed information pertaining to risk factors of periodontitis. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. Chi-square test and student t test were used for evaluation of level of significance.

RESULTS

In the present study, a total of 100 patients of chronic periodontitis and 100 patients of aggressive periodontitis were enrolled. Mean age of the patients of chronic periodontitis group and aggressive periodontitis group was 45.8 years and 24.3 years respectively. Significant results were obtained while comparing the mean age of the patients of both the study groups. Significantly higher proportion of males was present in the aggressive periodontitis group in comparison to chronic periodontitis group. Majority of the patients of the aggressive periodontitis group were students while majority of the patients of the chronic periodontitis group were employed subjects. Significantly higher proportion of patients of chronic periodontitis group were smokers where is significantly higher proportion of patients of aggressive periodontitis group were non-smokers.

DISCUSSION

In the last thirty years the role of plaque control has been reinforced as the only consistent determinant of periodontal disease. However, there have been several fundamental changes to the understanding of periodontal disease that have impacted this traditional concept. In both generalized forms of chronic and aggressive periodontitis, the affected individuals have no known medical or general health conditions that might contribute to the development of their periodontitis.[6-9] A study conducted to determine risk indicators of aggressive periodontitis (AP) in Jordanian population concluded that young age, smoking, reduced oral hygiene measures, income <625 euro/month, urban residency, and regular attendance to dental clinics are associated with increasing risk of AP. Another study aiming to assess the prevalence of AP and to investigate the association between demographic, socioeconomic, and behavioral risk indicators with AP in an untreated and isolated young population in South-eastern Brazil concluded that this population presented a high prevalence of AP with local plaque-retaining factors playing a major role. Studies conducted in India have been mainly directed toward the determination of epidemiology of periodontitis. A review in 2010 reveals that 43 studies were conducted determining prevalence of periodontitis in different regions of India from 1990 to 2009.[10-12] Hence; the present study was conducted for assessing risk factors of chronic and aggressive periodontitis in a known population.

In the present study, a total of 100 patients of chronic periodontitis and 100 patients of aggressive periodontitis were enrolled. Significant results were obtained while comparing the mean age of the patients of both the study groups. Significantly higher proportion of males was present in the aggressive periodontitis group in comparison to chronic periodontitis group. Davies et al noted that, for some patients with rapidly progressing periodontitis, the disease appeared to be associated with stress and / or depression and the possible importance of stress in relation to the time of onset and rate of progression of idiopathic rapidly progressing periodontitis was also suggested.[13] It has been reported that smokers have an increased prevalence and severity of periodontal disease, as well as a higher prevalence of tooth loss and edentulism. The negative effect of smoking has been shown to be dose dependent and to be particularly marked in younger individuals. Furthermore, long-term studies have shown that smoking is associated with the recurrence of periodontitis during periodontal maintenance. Tonetti reported that cigarette smoking is associated with two- to threefold increase in the odds of developing clinically detectable periodontitis and subsequent tooth loss. Smoking affects the oral environment and bacterial ecology, gingival tissues and their vasculature, inflammatory and immunological responses, and the healing potential of periodontal connective tissues.[14-16]

In the present study, majority of the patients of the aggressive periodontitis group were students while majority of the patients of the chronic periodontitis group were employed subjects. Significantly higher proportion of patients of chronic periodontitis group were smokers where is significantly higher proportion of patients of aggressive periodontitis group were non-smokers.

Table 1: Comparison of risk factors

Parameter	Chronic periodontitis	Aggressive periodontitis	p- value
Mean age (years)	45.8	24.3	0.00*
Males (%)	58	70	0.12*
Females (%)	42	30	
Occupation (%)			0.00*
• **Employed**	50	22	
• **Unemployed**	26	30	
• **Student**	24	48	
Residence (%)			0.82
• **Rural**	52	60	
• **Urban**	58	40	
Educational qualification			0.02*
Less than 12th	52	34	
More than 12th	48	66	
Positive smoking history (%)	62	30	0.00*

*: Significant

Vandana KL et al compare various risk indicators of chronic periodontitis (CP) and aggressive periodontitis (AP). Totally, 89 CP and 90 AP patients were selected. This study demonstrated that AP is manifested early in life in susceptible individuals. Proven risk indicators for AP and CP in the present study population included young age, place of residence, income and education levels, frequency of dental visits. Patients with AP had better oral hygiene habits and oral hygiene index results than patients with CP. Paan chewing and smoking could be considered as risk factors, both in CP and AP cases. The similar association of plaque scores but higher bleeding tendency in AP patients supported the fact of higher susceptibility of AP patients to periodontal breakdown. Malocclusion being present in the majority of cases could also be put forth as a risk factor for AP and CP.[17]

CONCLUSION

From the above results, the authors concluded that aggressive periodontitis manifests mainly in younger population whereas aged individuals are more susceptible for chronic periodontitis. However; further studies are recommended.

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