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Scientific release from the EFP
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Study:

Tooth loss and alveolar bone crest loss during supportive periodontal therapy in patients with generalised aggressive periodontitis: retrospective study with follow-up of 8 to 15 years

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Relevant background:

Aggressive periodontitis (AgP) mostly affects patients under 30 years old, but it can also be diagnosed in older individuals. The generalised form of AgP (GAgP) is characterised by rapid attachment loss and bone resorption in the inter-proximal areas of more than three permanent teeth, other than first molars and incisors. Supportive periodontal therapy (SPT) at regular intervals has been proposed as an adjunct to the initial therapy in order to assist periodontal patients in maintaining their oral health. There has been limited research into the long-term treatment and maintenance outcomes in GAgP patients.

Aims:

The aim of this long-term, retrospective, observational study was to define the incidence of tooth loss in GAgP patients during long-term SPT, to identify its related risk factors, and to assess alveolar bone changes in these patients.

Methods:

GAgP patients were included from a database of a private periodontal practice. Patients meeting the following criteria were included: up to 35 years old at diagnosis, ≥ 20 teeth present, complete X-ray and periodontal status at baseline and follow-up ≥ 8 years. All subjects had received initial periodontal treatment with a combination of oral amoxicillin (500 mg TID for seven days) and metronidazole (500 mg TID for seven days) or metronidazole alone. SPT sessions were scheduled for all patients every four to six months. Attendance at those appointments was recorded to assess compliance. Patients were recalled for a complete periodontal examination (medical and dental history, periodontal charting, periapical X-rays). Patient data was stratified according to age, sex, and smoking habits (non-smoker, <10 cigarettes/day, 10-20 cigarettes/day, >21 cigarettes/day).

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Methods: *(cont.)*

The primary outcome was the amount of tooth loss between the end of periodontal therapy and the end of the follow-up. The position and cause of each lost tooth were recorded.
The secondary outcomes were the comparison of periodontal clinical variables – probing pocket depth (PPD) and clinical attachment loss (CAL) – and radiological parameters (alveolar bone loss) between baseline and study completion. Linear-regression models were used to assess the association of risk factors with tooth loss and with changes in periodontal parameters.

Results:

Overall, out of the 92 eligible patients, 25 patients could be recalled and these participated in the study. Seven patients attended all programmed SPT visits, while the remaining 18 patients attended at least one appointment per year. When necessary, patients received periodontal or regenerative surgery.
A total of 22 teeth out of 656 were lost over the follow-up period of 10.9 ± 2.0 years. The mean tooth loss per patient was 1.12 for all causes and 0.9 for periodontal disease. Most of the lost teeth were pluri-rooted (82%) and most of the tooth losses (18) occurred in three patients. In 72% of the patients, no tooth loss for periodontal reasons was observed. No significant difference in tooth loss was observed in patients in regular (two to four times a year) versus irregular (once a year) supportive periodontal therapy (p = 0.74).
Clinical variables were improved by the end of follow-up, with a mean reduction of 1± 0.8 mm in PPD and of 0.6 ± 0.9 mm in CAL. Also, a significant decrease of the percentage of pockets and in-site numbers with CAL of 4–6 mm and ≥7 mm was observed.
Mean alveolar bone crest loss at the end of follow-up was 0.36 ± 0.56 mm, mainly observed in the molar area.
According to the linear-regression analysis, there was no association between tooth loss and compliance for regular supportive periodontal therapy. Nevertheless, a relationship between tooth loss and smoking was observed (p = 0.052).

Limitations, conclusions and impact:

Limitations:

One of the main limitations of the study is related to the small sample size. Although the number of analysed teeth is significant, the number of patients included was only 25. It represents a low statistical power, especially for identifying risk factors.

Conclusions:

According to the results of this study, good outcomes (low tooth-loss rate) were observed in patients following regular periodontal maintenance (at least once a year) for a follow-up period of almost 11 years. Moreover, clinical periodontal variables improved over time (PPD and CAL), and alveolar-crest loss remained minimal. A relationship between smoking and tooth loss was also emphasised.

Impact:

According to this long-term report (one of the longest follow-ups of generalised AgP patients), SPT at least once a year and efforts to support patients in quitting tobacco may contribute to tooth stability in generalised AgP.