EVALUATION OF THE PULP VITALITY IN PATIENTS WITH PERIODONTITIS

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ABSTRACT

Background: Periodontitis and pulpitis are caused by bacterial infections and its interactions are well documented in the literature. It has been reported that the pulp of teeth with persisting periodontal disease develops fibrosis and some forms of mineralization. Lesions of the periodontium may reflect the pulpal conditions and lead to pulp inflammation and necrosis. Bacterial infection from the periodontal pocket may spread trough accessory canals to the pulp and cause pulp injury. In the advanced periodontal disease infection may spread trough the apical foramen. However many periodontally affected teeth show no evidence of pulpal involvement.

Aim: Evaluation of the pulp vitality in patients with moderate or advanced periodontitis.

Material and method: We examinated pulp vitality of 156 teeth in 18 patients who received periodontal treatment. Teeth were assessed for oral hygiene status, gingival status and periodontal status.

Results: Received results didn't show that periodontal disease affects seriously the vital function of the pulp in the examinated teeth.

Conclusion: Other authors suggest that persisting moderate or advanced periodontitis is obviously related with pulp injury as reversible and irreversible pulpitis, and pulp necrosis.

Pulpal and periodontal problems are responsible for more than 50% of tooth mortality today (2). Dental biofilm on root surfaces following periodontal disease has the potential to induce pathologic changes in the pulp along the same pathways as an endodontic infection can affect the periodontium in the opposite direction (1,3,6,7). Bacterial products and substances released by the inflammatory process in the periodontium may access to the pulp via exposed lateral canals, apical foramen or dental tubules (4,5). Reported outcomes show that involvement of the pulp function depends on the periodontal disease severity (4).

MATERIALS AND METHODS:

18 patients with moderate or advanced periodontal disease were included in this study (Fg.1). 156 teeth were examinated for pulp vitality by an electric test with scale from 0 to 200mA (Fg.2). Teeth were divided in 5 groups: I- 0-6mA; II- 7-20mA; III- 21-35mA; IV- more than 35mA; V- nonvital. All patients are received measurements of periodontal parameters: HI (Hygiene index), PBI (Papillary bleeding index), PPD (Periodontal pocket depth), CAL (Clinical attachment level), mobility. Including criteria was PPD more than 5mm.

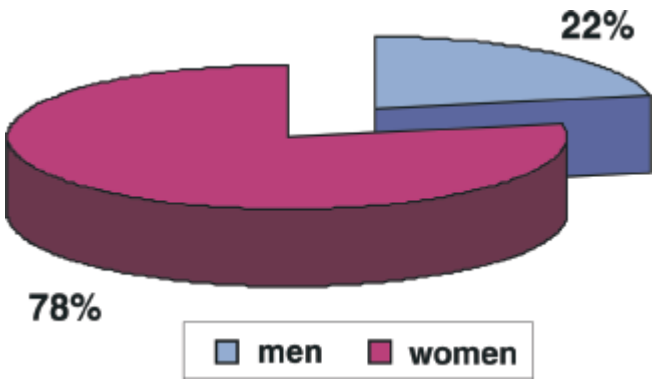


Fig. 1. – percentage of men and women in the study.

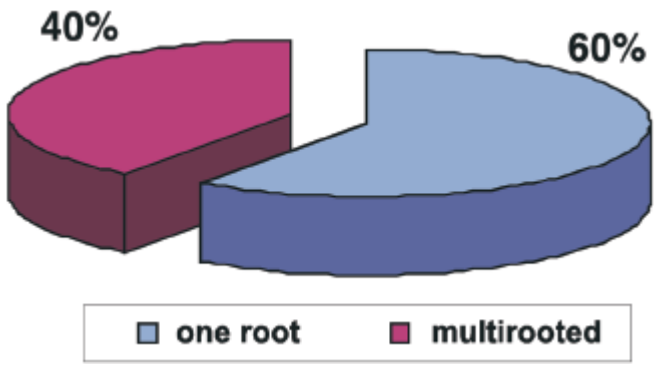


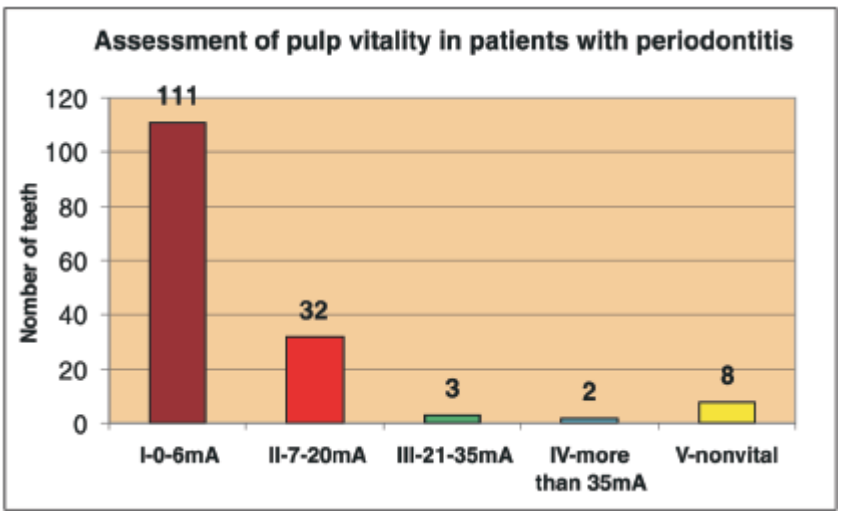
Fig. 2. – percentage of multirooted and single rooted teeth.



Fig. 3, 4, 5. – measurements of the pocket depth with periodontal probe (PPD more than 5mm).

RESULTS:

Examinated teeth in the study were assessed as: group I – 111 teeth (71%) with pulp ; group II – 32 teeth (21%) with normal vital pulp; group III – 3 teeth (2%) with reversible pulpitis; group IV – 2 teeth (1%) with irreversible pulpitis; group V – 8 teeth (5%) without reaction – non vital (Scheme 1) .



Scheme 1. Received values of pulp vitality in 156 teeth.

CONCLUSION:

The effect of the periodontal inflammation on the pulp is controversial. It seems that the pulp is usually not directly affected by periodontal disease until the accessory canals are open to the deeper periodontal pockets. In this study we received the results suggesting for lack of serious pulpal involvements in conjunction with periodontitis but there are some outcomes that may be interpreted as minor pulpal injuries. Future interest may be related to the multirooted teeth because of they anatomy as a risk for combined periodonto – endodontic lesions.

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