

INTERRADICULAR BONE LOSS IN CONJUNCTION WITH PROBING DEPTH

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BACKGROUND:

Diagnosis, treatment and long-term retention of the furcation involved molars in chronic periodontitis patients always have been challenge to the periodontal specialist. Continued periodontal breakdown in the furcation area may lead to total loss of the tooth unless these defects can be predicted, diagnosed and appropriate treated to preserve as long as possible the entire dentition. Two important risk factors for progression of periodontal disease – furcation involvement and pocket depth – are implicated in multi-step process of the calculation of the risk (PRC) (2).

The demonstration of the association between actual pocket depth in molar sites and interradicular deterioration would be of great importance in suggesting treatment options for minimizing future risk for progression of the bone loss in furcation involved teeth (3, 4).

OBJECTIVES:

Assessment of the association of interradicular bone loss with probing pocket depth in chronic periodontitis patients.

MATERIALS AND METHODS:

Patients: 49 (25 male and 24 female) 30 to 64 years of age with untreated chronic periodontitis.

Radiographs: Bitewing and periapical radiographs were used for all the measurements.

Radiographic measurements: All further measu-

rements were made using a periodontal probe (Williams periodontal probe - Hu-Friedy, Chicago, IL, USA). Interradicular bone loss was measured as the distance from the furcation fornix to the intact interradicular bone, interdental – from the CEJ to the alveolar margin (1).

Clinical examinations: At 6 sites per tooth was measured probing pocket depth – dB, midB, mB, mL, midL and dL.

Statistical analysis: SPSS v 15.0.

RESULTS:

The results of this study depict lower mean values for interradicular bone loss in maxillary molars than in mandibular (Diagram 1) probably due to the difficulties in the assessing bone loss in three-furcations on radiographic images.

The obtained data show that interradicular involvement of 1-2mm in mandubular molars may present in conjunction with mean values of the buccal pocket depth ≥ 4 mm mesial and distal and ≥ 3 mm midbuccal in patients with untreated chronic periodontitis (Diagrams 2, 3). The lingual measurements are similar – >4 mm <5 mm for the mesial and distal and ≥ 3 mm midlingual.

The results for maxillary molars are comparable with data for the mandubular multirooted furcation involved teeth. Measurements of range 1-2mm are associated with buccal and lingual pocket depth ≥ 4.5 mm with some variations and ≥ 3 mm pocket depth midbuccal and midlingual (Diagrams 4, 5).

Diagram 1. Mean values of the interradicular bone loss in chronic periodontitis patients



Diagram 2. Mandibular molars interradicular bone loss in conjunction with buccal pocket depth in chronic periodontitis patients

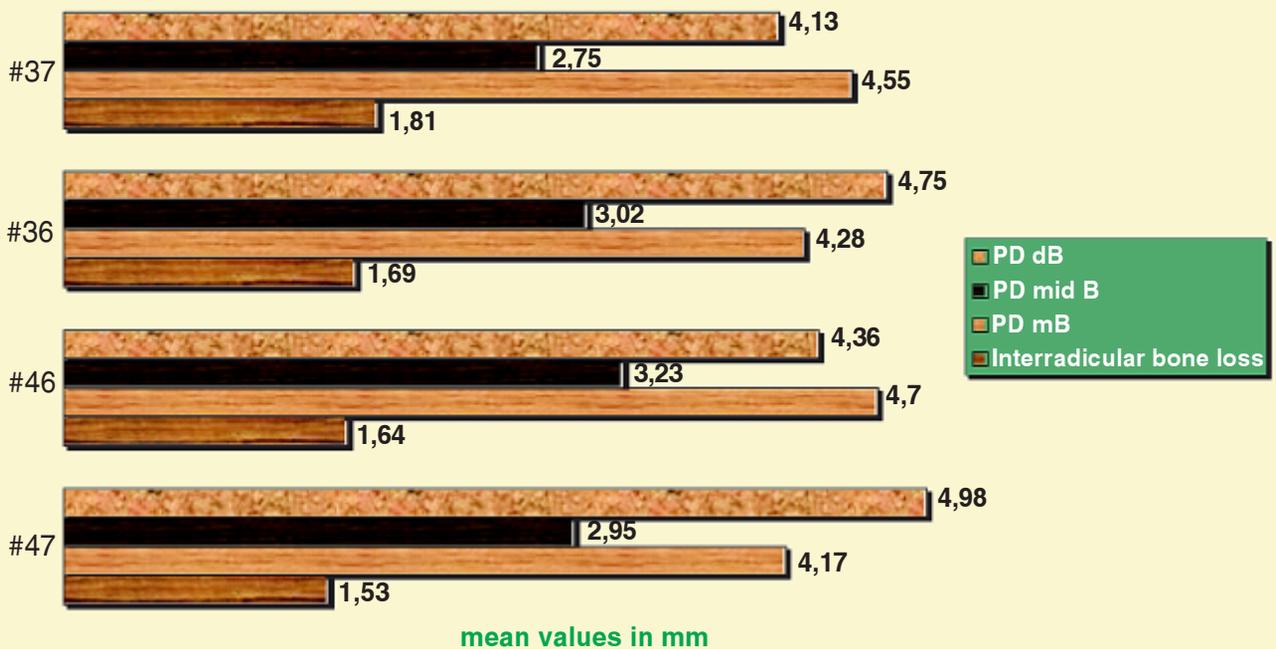


Diagram 3. Mandibular molars interradicular bone loss in conjunction with lingual pocket depth in chronic periodontitis patients

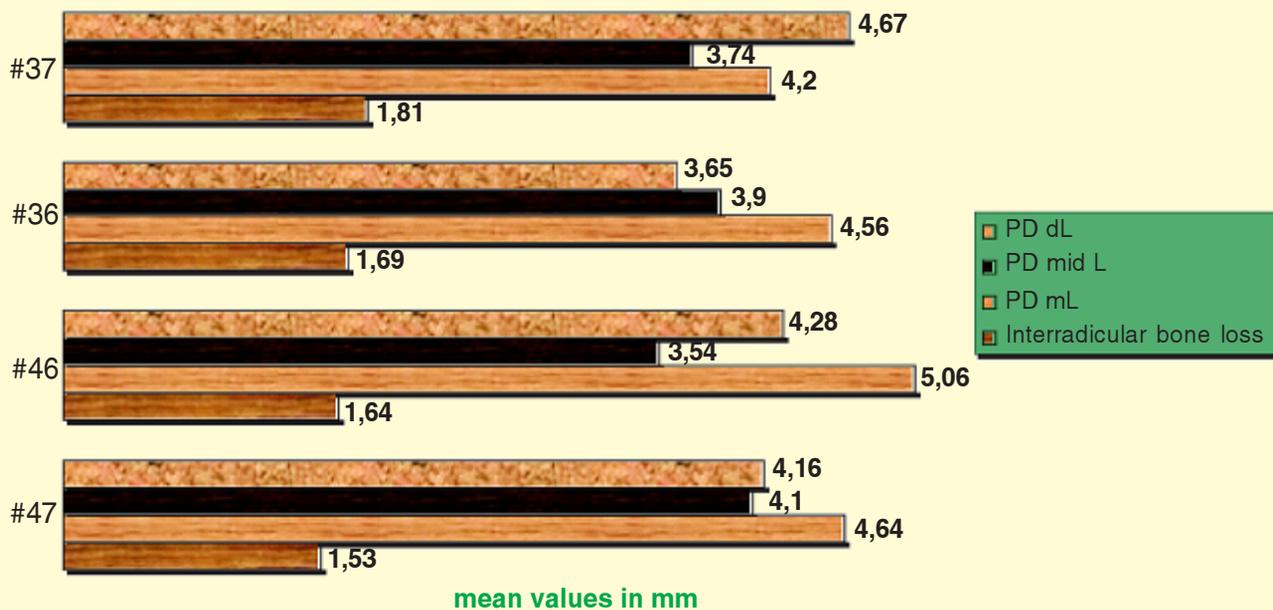


Diagram 4. Maxillary molars interradicular bone loss in conjunction with buccal pocket depth in chronic periodontitis patients

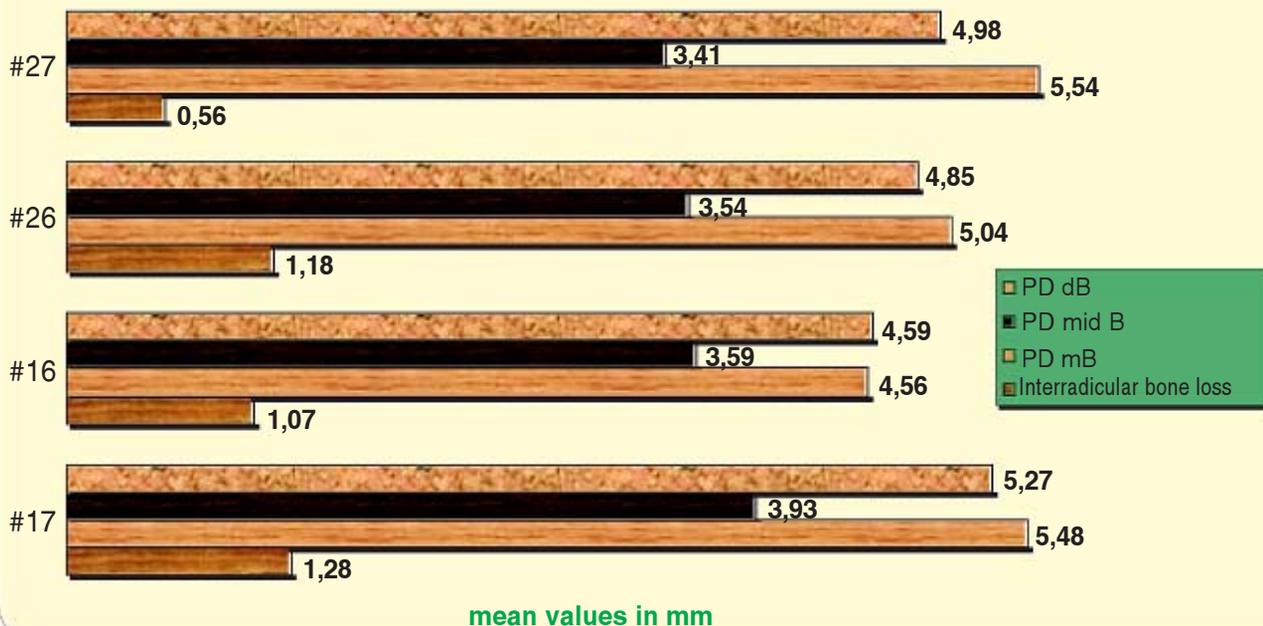
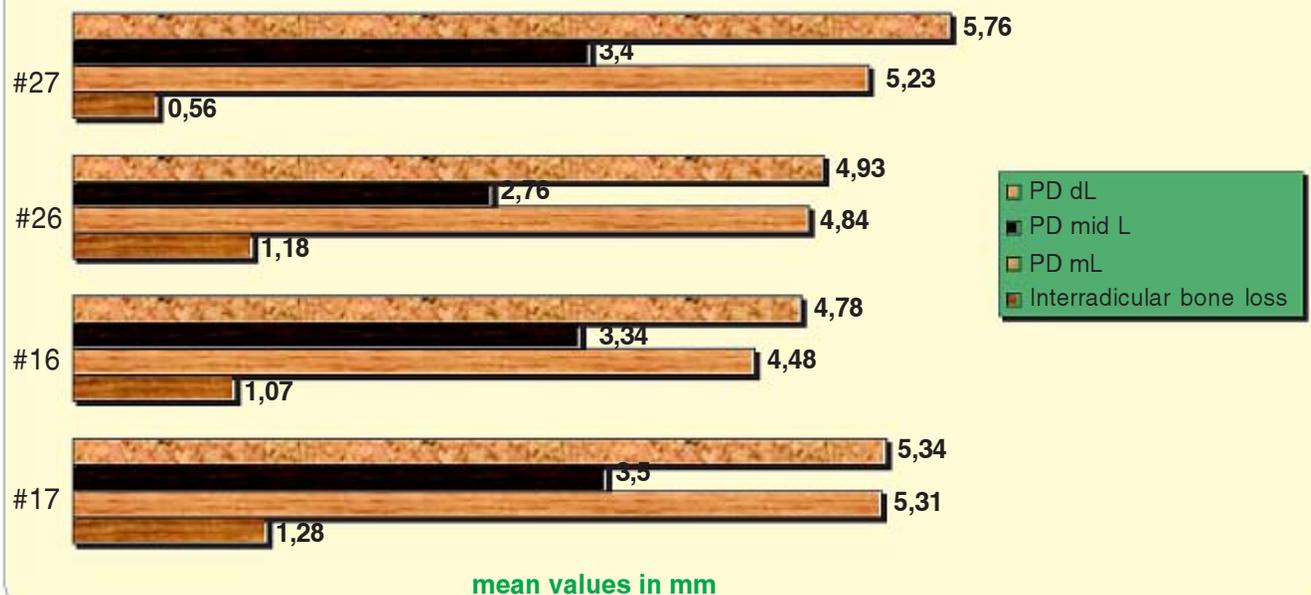


Diagram 5. Maxillary molars interradicular bone loss in conjunction with lingual pocket depth in chronic periodontitis patients



CONCLUSION:

The results of this study demonstrate that the interradicular bone loss is presented in chronic periodontitis patients in detectible means when the scores of the vertical dimensions reach 1-2mm. Interradicular bone loss is associated with >4mm<5mm interdental pocket depth and

>3mm pocket depth in the furcation entrance.

The treatment of the chronic periodontitis patients with successful reduction of the periodontal pockets may be effective in preventing future bone loss in the furcation area and long-term preserving of the involved teeth.

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