A Survey on the Accuracy of Radiovisiography in the Assessment of Interproximal Intrabony Defects

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Abstract:

Statement of problem: Digital measurement of RVG may improve diagnostic interpretation of radiographs in terms of accuracy, although it has been shown that validity of linear measurements of interproximal bone loss could not be improved by basic digital manipulations. Purpose: The aim of this study was to evaluate the accuracy of RadioVisioGraphy (RVG) in the linear measurement of interproximal bone loss in intrabony defects. Materials and Methods: Thirty two radiographs of 56 periodontally diseased teeth exhibiting interproximal intrabony defects were obtained by a standardized RVG technique and Intrabony defect depths were determined by linear measurement analysis of RVG. The following four distances were assessed intrasurgically: the cemento enamel junction (CEJ) to the alveolar crest, the CEJ to the deepest extention of the bony defect (BD), the occlusal plane to the BD and the OP to the AC. Comparison between RVG measures and intrasurgical estimates were performed using paired t-test. Results: The radiographic measurements overestimated interproximal bone loss as compared to the intrasurgical measurements: CEJ-BD measurement by RVG was 6.803 ± 3.589 mm and intra-surgically was 6.492 ± 3.492 ($P < 0.000$). No statistically significant difference was seen between CEJ and occlusal references in RVG measurements ($P < 0.729$). Conclusion: Radiographic assessment by either the CEJ or occlusal references overestimated bone loss as compared to the intrasurgical gold standard.

Keywords:

Direct digital radiography (RVG) ، Intrabony defect ، Periodontal disease

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