

CLINICAL AND LABORATORY ASSESSMENT OF
PERIODONTAL TISSUES AFTER FIXED PROSTHETIC
REHABILITATION

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Introduction. The condition of periodontal tissues is an important factor determining the success of fixed prosthetic rehabilitation. Improper tooth preparation and inadequate adaptation of fixed dental prostheses may contribute to inflammatory changes in the gingival sulcus and periodontal tissues. Therefore, objective clinical and laboratory assessment is necessary to improve the quality of prosthetic treatment.

Keywords: *fixed prosthodontics, periodontal disease, periodontal tissues, gingival sulcus, digital dentistry, microbiological assessment, biochemical assessment, dental prostheses.*

Aim. To assess the clinical, microbiological, and biochemical condition of the gingival sulcus and periodontal tissues before and after the placement of fixed dental prostheses fabricated using digital and conventional technologies.

Materials and Methods. A total of 130 patients aged 20–44 years will be included in the study. Patients with crown defects and limited partial defects of the dentition will undergo comprehensive dental and clinical examinations. The study will compare patients treated using digital technologies with those treated using conventional prosthodontic techniques. Clinical and dental examination, microbiological and biochemical investigations, radiological examination, and statistical analysis will be used at different stages of the study.

Expected Results. The comparative analysis is expected to identify differences in periodontal tissue responses associated with digital and



conventional fixed prosthetic techniques. The obtained data will be used to improve tooth preparation methods and approaches to preventing and eliminating inflammatory changes in the gingival sulcus and periodontal soft tissues after prosthetic treatment.

Conclusion.

Comprehensive clinical and laboratory monitoring of periodontal tissues can contribute to the optimization of fixed prosthetic rehabilitation. The implementation of digital technologies may improve the accuracy of treatment procedures and support the development of more effective approaches to maintaining periodontal health and extending the functional service life of fixed dental prostheses.

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