МЕДИЦИНСКИ УНИВЕРСИТЕТ - ВАРНА
„Проф. д-р Параскев Стоянов“
Ул.“Марин Дринов“ 55, Варна 9002, България
Тел. : 052/ 65 00 57, Факс: 052/ 65 00 19
e-mail: uni@mu-varna.bg, www.mu-varna.bg

MEDICAL UNIVERSITY - VARNA
“Prof. Dr. Paraskev Stoyanov”
55, Marin Drinov Str., 9002 Varna, Bulgaria
Tel.: +359 52/ 65 00 57, Fax: + 359 52/ 65 00 19
e-mail: uni@mu-varna.bg, www.mu-varna.bg

Fund “Nauka” Project № 25018 Resume – Competition-based Session 2025:

“A comparative study of materials for regeneration of bone defects following apical osteotomy”

Project leader: Assoc. prof. Tsvetelina Iliyanova Borisova-Papancheva, MD, PhD

This project aims to evaluate the impact of various biomaterials on bone regeneration in defects created as a result of apical osteotomy. The materials assessed include gelatin-based hemostatic sponges, collagen hemostatic sponges, and platelet-rich plasma (PRP). This project aims to evaluate the impact of various biomaterials on bone regeneration in defects created as a result of apicoectomy. The materials assessed include gelatin-based hemostatic sponges, collagen hemostatic sponges, and platelet-rich plasma (PRP). The study protocol comprises preoperative cone-beam computed tomography (CBCT) for defect assessment, the surgical procedure, postoperative CBCT imaging, and a follow-up CBCT examination conducted eight months after the intervention to assess bone healing. It is anticipated that the use of regenerative materials will result in superior bone regeneration in terms of both rate and quality when compared with the control group. The findings of this project are expected to provide scientific evidence to support the optimization of material selection and application in apical surgery, thereby contributing to the advancement of clinical practice in endodontic surgery.

Expected result: The application of collagen- and gelatin-based hemostatic materials, as well as platelet-rich plasma (PRP), in bone defects created following apical osteotomy results in faster and more effective bone regeneration compared with the control group without defect filling.