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УНИВЕРЗИТЕТ У КРАГУЈЕВЦУ
ФАКУЛТЕТ МЕДИЦИНСКИХ НАУКА
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ЗАХТЕВ ЗА ОДОБРЕЊЕ УЧЕШЋА НА НАУЧНОМ СКУПУ

Поштовани,

Обраћам Вам се са молбом да ми дате сагласност за мој боравак као истраживача на Конгресу “IACS-NAS 13th Annual Conference“ (Интернационална академија за кардиоваскуларне науке, Северноамеричка секција), који ће се одржати од 10-12, септембра 2026 у Лујвилу у Кентакију, САД. Наведена сагласност ми је потребна за аплицирање путем конкурса за средства Министарства науке и технолошког развоја и иновација за суфинансирање учешћа истраживача на научним скуповима у иностранству а према званичном позиву МНТР и списку обавезне документације. Уз молбу, прилажем пријављени сажетак. Унапред се захваљујем на разумевању.

29.05.2026.

Крагујевац

Доц. др Драгана Станишић

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Cardiovascular Risk Reduction Through Adjunctive Periodontal Therapy in Patients with Hyperhomocysteinemia and Periodontitis: Effects on Homocysteine, Oxidative Stress, and Periodontal Status

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Background: Periodontitis is a chronic inflammatory disease associated with oxidative stress, systemic inflammation, and increased cardiovascular risk. Hyperhomocysteinemia is recognized as an independent cardiovascular risk factor and may contribute to periodontal tissue destruction through inflammatory and redox-related mechanisms. This study evaluated the effects of causal periodontal therapy combined with probiotic and folic acid supplementation on homocysteine levels, oxidative stress, and periodontal clinical parameters in patients with periodontitis with and without hyperhomocysteinemia.

Methods: Twenty patients aged 22–62 years (12 males and 8 females) were divided into four groups (n=5/group): periodontitis patients treated with causal periodontal therapy alone; periodontitis patients receiving adjunctive *Lactobacillus rhamnosus* (1×10^{10} CFU/day) and folic acid (5 mg/day); hyperhomocysteinemic periodontitis patients treated with causal therapy alone; and hyperhomocysteinemic patients receiving combined therapy. Clinical periodontal assessments included Gingival Index (GI), Papillary Bleeding Index (PBI), Plaque Index (PI), and periodontal disease index. Serum homocysteine ($>15 \mu\text{mol/L}$) was measured using immunochemical methods. Oxidative stress markers included plasma O_2^- , H_2O_2 , NO_2^- , TBARS, and erythrocyte lysate GSH, SOD, and CAT.

Results: After three months, all groups demonstrated improvement; however, the greatest therapeutic effects were observed in patients receiving adjunctive probiotic and folic acid therapy. These patients showed significantly reduced homocysteine levels, lower prooxidative markers, and improved periodontal parameters, together with increased antioxidant enzyme activity. The most pronounced improvement was observed in hyperhomocysteinemic patients receiving combined therapy.

Conclusion: Adjunctive probiotic and folic acid supplementation may enhance periodontal therapy outcomes by reducing hyperhomocysteinemia, improving oxidative stress balance, and potentially contributing to cardiovascular risk reduction.

Key words: periodontitis, hyperhomocysteinemia, oxidative stress, probiotics, folic acid