E CONF SERIES

International Conference on Medical Science, Medicine and Public Health
Hosted online from Jakarta, Indonesia
Website: econfseries.com 30th November, 2025

INTERDISCIPLINARY APPROACH TO ENHANCING DENTAL HEALTH IN PATIENTS WITH CHRONIC ISCHEMIC HEART DISEASE: PREVENTIVE AND THERAPEUTIC STRATEGIES

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Relevance

Chronic ischemic heart disease (IHD) continues to occupy a central position among global non-communicable diseases and remains a leading cause of premature mortality. At the same time, dental and periodontal diseases persist as the most common chronic inflammatory conditions worldwide. Modern scientific concepts emphasize that oral inflammatory foci may influence systemic vascular health through continuous microbial dissemination, endotoxemia, immune activation, and oxidative stress. This interaction may accelerate endothelial dysfunction and provoke destabilization of coronary circulation. In this context, a comprehensive assessment of oral health in patients with IHD becomes not only a dental necessity but also an important component of systemic disease management. Establishing optimized diagnostic and preventive strategies for this category of patients is therefore a pressing scientific and clinical task.

Keywords: To substantiate and evaluate a multidisciplinary preventive–therapeutic model aimed at improving dental and periodontal health in patients diagnosed with chronic ischemic heart disease.

Materials and Methods

The study included adults aged 40–80 years, divided into main (IHD) and control groups. The examination program comprised:
full dental clinical assessment;
periodontal diagnostics using standardized global indices (GI, CPI, SBI, OHI-S);
evaluation of oral mucosal integrity;
salivary examination including buffering capacity, viscosity, and levels of macro-elements;

assessment of immune markers (including T-cell subpopulations and immunoglobulin profile);
radiological imaging of periodontal structures;
cardiological monitoring to trace any correlation between dental rehabilitation and cardiovascular symptoms.
Patients with IHD underwent a tailored multicomponent dental intervention involving periodontal therapy, restoration of carious lesions, antiseptic protocols, individualized hygiene training, and adjuvant carboxytherapy.
Statistical analysis was performed to determine the significance of intergroup differences and treatment outcomes.

Results

The investigation revealed that patients with chronic IHD exhibited markedly poorer oral health indicators compared with controls. Elevated plaque accumulation, increased bleeding tendency, reduced salivary buffering capacity, and significantly greater periodontal destruction were characteristic features. Many IHD patients presented with atrophic and traumatic mucosal lesions, likely intensified by systemic vascular alterations and chronic inflammation.
Immune profiling demonstrated decreased regulatory T-cell activity and elevated levels of circulating immune complexes, suggesting an active systemic inflammatory background. These immune dysregulations correlated with the severity of periodontal changes.
Introduction of the comprehensive treatment program resulted in substantial improvement:
- periodontal pocket depth and bleeding scores decreased;
- mucosal healing accelerated;
-salivary mineral content partially normalized;
-patients demonstrated better tolerance to daily physical activity;
-subjective complaints such as oral dryness, bleeding, and discomfort reduced significantly.
Furthermore, several cardiological parameters showed mild but measurable stabilization, indicating the systemic value of targeted dental rehabilitation.

Conclusion

The study confirms that chronic IHD and oral inflammatory diseases are interconnected through multiple biological mechanisms, including microbial translocation, immune imbalance, and vascular dysfunction. Effective management of oral health in patients with IHD requires a coordinated, interdisciplinary approach involving dental specialists and cardiologists. The proposed comprehensive program demonstrated high effectiveness and can serve as a model for preventive and therapeutic care aimed at reducing systemic inflammatory load and improving quality of life. Routine dental monitoring should be integrated into long-term cardiovascular management pathways.

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