Nanoparticle-Mediated Resveratrol Delivery for the Treatment of Periodontitis

Alexandria, VA – A study aiming to develop a novel therapeutic approach targeting the underlying osteoclastogenesis and inflammation responsible for periodontal tissue destruction in priodontitis was presented at the 54th Annual Meeting of the AADOCR, which was held in conjunction with the 49th Annual Meeting of the Canadian Association for Dental Research, on March 12-15, 2025 in New York, NY.

The abstract, "Nanoparticle-Mediated Resveratrol Delivery for the Treatment of Periodontitis" was presented by Sharon Y.J. Kim of the University of California, Los Angeles during the "Biomaterial Strategies for Restorative and Regenerative Applications" Poster Session that took place on Thursday, March 13, 2025 at 11 a.m. EDT (UTC-4).

Periodontitis, the most prevalent osteolytic disease, affects nearly 50% of adults over 30, contributing to local periodontal tissue damage, tooth loss, and is associated with an increased risk of systemic diseases such as diabetes, cardiovascular disease, and oral cancer. Unlike conventional treatments, which focus solely on pathogen removal, this study aimed to develop a novel approach that targets the underlying osteoclastogenesis and inflammation responsible for periodontal tissue destruction using resveratrol (RSV)-loaded Zeolite imidazole framework (ZIF) nanoparticles.

The study introduced a targeted, anti-inflammatory strategy for treating periodontitis using RSV-loaded ZIF nanoparticles. The findings suggested a safer and more effective alternative to traditional treatments, with the potential to reduce both local periodontal damage and the associated risks of systemic diseases.

About AADOCR
The American Association for Dental, Oral, and Craniofacial Research is a nonprofit organization with a mission to drive dental, oral, and craniofacial research to advance health and well-being. AADOCR represents the individual scientists, clinician-scientists, dental professionals, and students based in academic, government, non-profit and private-sector institutions who share our mission. AADOCR is the largest division of the International Association for Dental, Oral, and Craniofacial Research. Learn more at www.aadocr.org.