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CHALLENGES IN THE LOCAL DELIVERY OF PEPTIDES AND PROTEINS FOR ORAL MUCOSITIS MANAGEMENT

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ABSTRACT

Oral mucositis, a common inflammatory side effect of oncological treatments, is a disorder of the oral mucosa that can cause painful ulcerations, local motor disabilities, and an increased risk of infections. Due to the discomfort it produces and the associated health risks, it can lead to cancer treatment restrains, such as the need for dose reduction, cycle delays or abandonment. Current mucositis management has low efficiency in prevention and treatment. A topical drug application for a local action can be a more effective approach than systemic routes when addressing oral cavity pathologies. Local delivery of growth factors, antibodies, and anti-inflammatory cytokines have shown promising results. However, due to the peptide and protein nature of these novel agents, and the several anatomic, physiological and environmental challenges of the oral cavity, their local action might be limited when using traditional delivering systems. This review is an awareness of the issues and strategies in the local delivery of macromolecules for the management of oral mucositis.

KEYWORDS: oral mucositis; drug delivery; peptides and proteins; cytokines; growth factors; cancer; radiation and chemotherapy.

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