Guest Editorial

Regenerative medicine in dentistry: A paradigm shift

Regenerative medicine is revolutionizing dentistry by leveraging the body's natural ability to heal and regenerate tissues. Unlike traditional approaches that rely on mechanical repairs, regenerative methods, such as stem cell therapies, bioactive materials, and exosome-based treatments, focus on biologically restoring dental structures.[1]

The applications of regenerative medicine in dentistry are vast and impactful. Pulp regeneration using mesenchymal stem cells (MSCs) or exosomes has shown promise in preserving tooth vitality, while bone regeneration techniques support implant integration and periodontal defect repair.[2,3] Periodontal tissue restoration is advancing the treatment of advanced gum disease, and regenerative strategies are accelerating wound healing in oral surgeries.[4] Innovations in bioactive materials are enabling enamel regeneration and improving implant success rates through enhanced scaffold designs.[5] Furthermore, regenerative approaches are crucial for repairing tissue damage caused by trauma or oral cancer, offering less invasive and more effective solutions.[6]

The future of dentistry lies in interdisciplinary collaboration, combining advancements in biotechnology, materials science, and clinical practice. Regenerative medicine not only provides the means to treat dental diseases but also restores the natural function of teeth, shifting the focus from mechanical repair to true biological healing.[4] By embracing this transformative paradigm, we can redefine oral healthcare and significantly improve patient outcomes worldwide.

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Conflicts of interest

There are no conflicts of interest.

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