

## Departments

### PERSPECTIVE

- Novel Targets for the Treatment of Ameloblastoma** 237  
*K. Heikinheimo, K.J. Kurppa, and K. Elenius*  
 This is a perspective on the discovery of oncogenic mutations in ameloblastoma and its implications for novel therapeutic approaches.

## Reviews

### CRITICAL REVIEWS IN ORAL BIOLOGY & MEDICINE

- Role of Dentin MMPs in Caries Progression and Bond Stability** 241  
*A. Mazzoni, L. Tjäderhane, V. Checchi, R. Di Lenarda, T. Salo, F.R. Tay, D.H. Pashley, and L. Breschi*  
 The authors describe MMP functions in caries and hybrid layer degradation and explore the potential therapeutic role of MMP inhibitors to develop improved intervention strategies for MMP-related oral diseases.
- Diabetes as a Risk Factor for Medication-Related Osteonecrosis of the Jaw** 252  
*A. Peer and M. Khamaisi*  
 This is a review article on osteonecrosis of the jaws and the role of diabetes in the pathogenesis of this disease.

### CLINICAL REVIEW

- Systematic Review on Noninvasive Treatment of Root Caries Lesions** 261  
*R.J. Wierichs and H. Meyer-Lueckel*  
 The authors critically summarize results of clinical studies investigating chemical agents to reduce the development of new root caries lesions or to reverse (inactivate) existing ones.

## Research Reports

### CLINICAL

- Detecting and Treating Occlusal Caries Lesions: A Cost-Effectiveness Analysis** 272  
*F. Schwendicke, M. Stolpe, H. Meyer-Lueckel, and S. Paris*  
 A simulation study evaluated the long-term health and cost effects of caries detection methods and subsequently initiated treatments in different populations.
- The Clustering Effects of Surfaces within the Tooth and Teeth within Individuals** 281  
*M. Masood, Y. Masood, and J.T. Newton*  
 Failure to consider the effect of clustering on the design and analysis of epidemiological trials leads to an overestimation of the impact of interventions and the importance of risk factors in predicting caries outcome.
- Prospective Study of Dental Intervention for Hematopoietic Malignancy** 289  
*K. Tsuji, Y. Shibuya, M. Akashi, S. Furudo, K. Yakushijin, S. Kawamoto, A. Okamura, H. Matsuoka, and T. Komori*  
 Given that chemotherapeutic agents elicit side effects, such as myelosuppression and immunosuppression, dental staff need to be familiar with an appropriate, effective intervention protocol, to enhance communication between medical and dental staff.

### BIOMATERIALS & BIOENGINEERING

- Bioactive and Thermally Compatible Glass Coating on Zirconia Dental Implants** 297  
*A. Kirsten, A. Hausmann, M. Weber, J. Fischer, and H. Fischer*  
 The authors introduce a novel glass composition that was proven to be as bioactive as Hench glass and is thermally compatible to zirconia dental implants.

### BIOLOGICAL

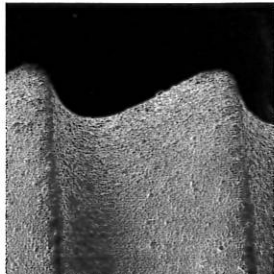
- Establishment of Functional Acinar-like Cultures from Human Salivary Glands** 304  
*S.I. Jang, H.L. Ong, A. Gallo, X. Liu, G. Illei, and I. Alevizos*  
 The authors describe the establishment of primary acinar cell cultures from human minor salivary glands, which maintain their functional properties for several passages.
- NFIB Regulates Embryonic Development of Submandibular Glands** 312  
*R.E. Mellas, H. Kim, J. Osinski, S. Sadibasic, R.M. Gronostajski, M. Cho, and O.J. Baker*  
 The authors determined that nuclear factor I B is not required for branching morphogenesis but plays a key role in tubule cell differentiation during mouse submandibular gland development.
- Cantharidins Induce ER Stress and a Terminal Unfolded Protein Response in OSCC** 320  
*Y. Xi, D.M. Garshott, A.L. Brownell, G.H. Yoo, H.-S. Lin, T.L. Freeburg, N.G. Yoo, R.J. Kaufman, M.U. Callaghan, and A.M. Fribley*  
 High-throughput screening identified cantharidin as a novel endoplasmic reticulum stress-inducing compound that selectively kills oral squamous cell carcinoma cell lines in culture.

# Research Reports (continued)

- The Specific Role of FAM20C in Dentinogenesis** 330  
*X. Wang, J. Wang, Y. Liu, B. Yuan, L.B. Ruest, J.Q. Feng, and C. Qin*  
The dentin defects of Fam20C-KO mice are independent of enamel defects.
- Effects of Enzymatic Degradation after Loading in Temporomandibular Joint** 337  
*Y. Asakawa-Tanne, S. Su, R. Kunimatsu, N. Hirose, T. Mitsuyoshi, Y. Okamoto, E. Tanaka, K. Tanne, and K. Tanimoto*  
This article demonstrates that compromised lubrication in the temporomandibular joint is associated with degenerative characteristics of osteoarthritis during mechanical loading.
- Combinatorial Effects of Arginine and Fluoride on Oral Bacteria** 344  
*X. Zheng, X. Cheng, L. Wang, W. Qiu, S. Wang, Y. Zhou, M. Li, Y. Li, L. Cheng, J. Li, X. Zhou, and X. Xu*  
This study provides the first evidence that combination application of fluoride and arginine has a potential synergistic effect in maintaining a healthy oral microbial equilibrium by enriching alkali-generating bacteria in the multi-species biofilm.
- The Pathology of Bone Tissue during Peri-Implantitis** 354  
*B. Schminke, F. vom Orde, R. Gruber, H. Schliephake, R. Bürgers, and N. Miosge*  
The report highlights the gene and protein signatures of human peri-implantitis lesions and introduces a fibro-osteocyte type of cell, which is responsible for changes in the peri-implant tissue compared with healthy alveolar bone.
- Metabolic Syndrome Exacerbates Inflammation and Bone Loss in Periodontitis** 362  
*Y. Li, Z. Lu, X. Zhang, H. Yu, K.L. Kirkwood, M.F. Lopes-Virella, and Y. Huang*  
This study shows that metabolic syndrome is associated with increased periodontal inflammation and alveolar bone loss in an experimental model of lipopolysaccharide-induced periodontitis.
- PIN1 Inhibition Suppresses Osteoclast Differentiation and Inflammatory Responses** 371  
*Y.-A. Cho, S.-S. Jue, W.-J. Bae, S.-H. Heo, S.-I. Shin, I.-K. Kwon, S.-C. Lee, and E.-C. Kim*  
PIN1 inhibition blocks nicotine- and LPS-induced inflammatory responses as well as osteoclast differentiation, possibly through osteoclastogenic cytokines.
- Elevated Serum 25(OH)-Vitamin D Levels Are Negatively Correlated with Molar-Incisor Hypomineralization** 381  
*J. Kühnisch, E. Thiering, J. Kratzsch, R. Heinrich-Weltzien, R. Hickel, and J. Heinrich, for the GINplus study group and the LISApplus study group*  
Lower serum 25(OH)vitamin D concentrations were associated with a higher probability for molar-incisor hypomineralization and caries-related restorations in 10-year-old children.

CLASSIFIEDS

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## ABOUT THE COVER

Novel Dental Implant surface on Y-TZP substrates is shown using scanning electron micrographic image of implant microstructured glass coatings.

For more details, see pages 297-303.