Gene therapy in clinical dentistry

Correcting craniofacial deformities with the alternative strategy of gene therapy is still uncharted territory. This lecture will present how our research group established an effective in vivo gene-delivery system with recombinant adeno-associated virus (rAAV)-mediated vascular endothelial growth factor (VEGF). After VEGF gene delivery into rat mandibular condyles, expression of specific osteogenetic and chondrogenetic markers significantly increased from day 30. Morphological measurement identified an increase in the size of the mandibular condyle. Therefore, rAAV-VEGF was successfully established as an efficient gene-delivery system to induce mandibular condyle growth, providing the basis for future gene therapy to treat patients with craniofacial deformities.

—For more information on this course and the Conjoint Congress, please e-mail the Congress Secretariat: dent25cb@hku.hk

A-Bakr M Rabie
MS, Cert Ortho, PhD, FDSRCS (Edin), FCDSHK (Ortho)

Prof Bakr Rabie is a Professor in Orthodontics, the Postgraduate Programme Director in Orthodontics, and Founder and Convenor of the Biomedical and Tissue Engineering Research Group at the Faculty of Dentistry, The University of Hong Kong. So far, he has supervised the research projects of 60 postgraduate students at PhD, Masters, and Advanced Diploma levels. Prof Rabie has published more than 260 articles, abstracts, and book chapters, and is an Editorial Board member of the Journal of Dental Research and several other international journals.