Chapter 1

USE OF GROWTH FACTORS AND BONE GRAFTS IN PERIODONTOLOGY

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The aim of the regenerative therapy is the restoration the function and structure of deteriorate periodontal tissues. In dentistry, the regenerative therapy techniques involve soft tissue graft, bone grafting materials (autogenous, human, animal and synthetic sources), tooth graft materials, biologic molecules, autogenous cells and growth factors (Bartold & ark., 2000, Greenwell, 2001).

BONE GRAFTS

Bone grafts are placeholder materials and stimulate the bone formation. Ideal bone grafts should have some features such as have not antigenic properties, increasing the revascularization, stimulating the osteoinduction, osteoconduction and osteogenesis. Bone grafts are classified as four groups: autograft, allograft, xenogreft and alloplast graft.

Autogenous Graft

A type of graft transplanted from one place to another in the same individual is termed autogenous graft. Autogenous grafts can obtained from the iliac, tibia, femur, costa, calvarium in extraorally and symphysis, the anterior edge of the ramus, the region of maxillary tubular, the corpus, the zygomatic bone, the coronoid protrusion and the alveolar crest in intraorally. Autogenous graft, which has osteoinductive, osteoconductive, and osteogenic properties, is considered gold standart. Use of the autogenous grafts can decrease the transmission of infectious diseases. However, postoperative pain, donor site complications, creating the second wound site, limited availability and problem of bone resorption are accepted disadvantages for autogenous grafts (Jemt & Lekholm, 2003, Fellah & ark., 2008).

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