

PIXE analysis of bone regeneration using bone morphogenetic protein(BMP)

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Abstract

It is well known that bone morphogenetic protein (BMP) encourages bone formation strongly. This study evaluated elementary analysis of bone regeneration using rhBMP-2 in bone defects of the mandible. Bone defects 20 mm wide were surgically created in mandiblar bones of adult male beagles and implants were placed into the bone defects. Elementary analysis using particle induced X-ray emission (PIXE) revealed significant differences between the rhBMP-2 (+) group and the rhBMP-2 (-) in concentrations of Mg and Ca ($p < 0.05$).