論 文 要 旨

Bone healing capabilities of recombinant human bone morphogenetic protein-9 (rhBMP-9) with a chitosan or collagen carrier in rat calvarial defects.

（ラット頭蓋骨欠損における recombinant human bone morphogenetic protein-9 (rhBMP-9)とキトサンもしくはコラーゲン担体を用いた骨治癒能）

篠原　敬哉

The aim of this study was to examine the effects of recombinant human BMP-9 (rhBMP-9) with chitosan sponge (ChiS) or absorbable collagen sponge (ACS) on bone formation in rat calvarial defects. The defects were treated by one of the following implantations: ChiS, rhBMP-9/ChiS, ACS, rhBMP-9/ACS and no implantation. The animals were euthanized at 8 weeks for histological evaluation. The percentage of defect closure (DC) in the rhBMP-9/ACS group was significantly greater than that in the ACS group. The rhBMP-9/ ACS group demonstrated the highest level of DC among all the groups. The newly formed bone area (NBA) and NBA/total area in the ChiS-implanted groups and in the rhBMP-9/ACS group were significantly greater compared with those in the ACS group. It can be concluded that rhBMP-9/ACS has a potential to induce bone formation in rat calvarial defects. Further studies are required to elucidate the mechanism of bone formation induced by rhBMP-9.