新闻动态

学院公告
学院新闻
教学讯息
医疗讯息
科研讯息
新闻链接
网站日志

口腔再生医学团队在JDR杂志发表封面文章

口腔再生医学团队蒋欣泉教授指导的博士研究生张文杰近日在国际口腔医学研究领域最权威的Journal of Dental Research（JDR）杂志上以封面文章的形式刊登发表研究成果“Comparison of the Use of Adipose Tissue – Derived and Bone Marrow – Derived Stem Cells for Rapid Bone Regeneration”（2013年第12期）。

该研究针对口腔颌面部特殊部位的骨组织再生临床课题，首次在体外及大动物体内系统评价了骨髓来源与脂肪来源间充质干细胞的成骨分化能力和快速成骨效果，结果提示：骨髓来源的干细胞优于脂肪来源的干细胞。该结论对指导口腔颌面部骨组织再生临床转化过程中的细胞选择具有重要价值。

研究成果由国家重大科学研究计划“973”课题以及国家自然科学基金杰出青年科学基金联合资助，在九院口腔生物工程/再生医学实验室独立完成。

Stem cell-based bone tissue engineering has been recognized as a new strategy for maxillary sinus floor elevation. More rapid bone formation may enhance this technique when simultaneous dental implant placement is desired. Adipose tissue-derived stem cells (ADSCs) and bone marrow stem cells (BMSCs) are the most well-characterized cell sources for bone regeneration, but comparative studies on the osteogenic potential of these cells have yielded conflicting conclusions. This study aimed to compare the rapid bone formation capacity of ADSCs and BMSCs in a canine sinus floor augmentation model. In in vitro studies,

BMSCs had a higher proliferative ability and greater osteogenic differentiation potential at both the mRNA and protein levels. When GFP-labeled cells on calcium phosphate cement (CPC) scaffolds were implanted subcutaneously into nude mice, both ADSCs and BMSCs survived for 4 wks, but only BMSCs formed new bone. Furthermore, according to sequential fluorescence labeling results for the canine sinus, BMSCs promoted rapid and greater bone regeneration during the entire observation period. In contrast, obvious mineralization was detected starting from 3 wks after implantation in the ADSC group. These results suggest that BMSCs might be more useful than ADSCs for rapid bone regeneration for sinus augmentation with simultaneous implant placement.

Zhang W, Zhang X, Wang S, Xu L, Zhang M, Wang G, Jin Y, Zhang X, Jiang X. Comparison of the use of adipose tissue-derived and bone marrow-derived stem cells for rapid bone regeneration. J Dent Res, 2013,92(12):1136-1141.

咨询信箱/即时联系：college_of_stomatology_sjtu@hotmail.com

网站制作室地址：上海浦东新区严桥路390号1号楼4层 | 邮政编码：200125 | 电话/传真：021-33833534

ICP备案证号：沪ICP备09050743