Mariko Kawai, J Stem Cell Res Ther 2015, 5:7
http://dx.doi.org/10.4172/2157-7633.S1.015

OMICS International
conferenceseries.com

4th International Conference and Exhibition on
Cell & Gene Therapy

August 10-12, 2015 London, UK

Gene therapy using *in vivo* electroporation for alveolar bone regeneration

Mariko Kawai[1,2]
[1]Osaka Dental University, Japan
[2]Department of Oral Morphology, Dental School of Okayama University, Japan

Bone morphogenetic proteins (BMPs) have strong bone inductive potential. We constructed a new method for bone regeneration using BMPs gene and *in vivo* electropopration. We transferred BMPs gene to mesenchymal stem cells in the periodontal tissues using *in vivo* electroporation. We observed time course cell populations after BMPs gene transfer. We performed histological analyses and immune-histochemical analyses using stem cell markers CD90, CD44 or inflammatory marker, CD68. Moreover, we performed calcein and tetracycline double bone staining for observation of the alveolar bone metabolism. We found inflammation reactions during 5 days after BMPs gene transfer. Inflammatory tissues were not found after one week later gene transfer. Double bone staining after BMPs gene transfer had wider alveolar bone lining. But, we could not find any other differences compared with control. Our histological findings did not reveal that BMPs gene transfer to periodontal tissues of rats made wrong alveolar bone metabolism. Therefore, our BMPs gene transfer system using *in vivo* electroporation could be new therapy for alveolar bone regeneration.

Biography

Mariko Kawai is DDS. She has completed her PhD from Kyoto University, Medical School. She is working as an Assistant Professor at Okayama University and Osaka Dental University, Japan

Notes: