



Response to: Letter to the editor: The sole and combined effect of simvastatin and platelet rich fibrin as a filling material in induced bone defect in tibia of albino rats



Successful graft incorporation is defined as the ability of the graft and surrounding tissue to function and maintain mechanical integrity. [1].

In vivo study by de Mendonça et al [2] evaluated the capacity of human dental pulp stem cells (hDPSC), isolated from deciduous teeth, to reconstruct large-sized cranial bone defects in non-immunosuppressed (NIS) rats and reported that the use of hDPSC in NIS rats did not cause any graft rejection

Another study by Qin et al reported that human bone marrow stromal/stem cell (BMSC)-derived extracellular vesicles led to more bone formation in the critical-size calvarial bone defects in rats [3]

Kim et al [4] reported that xenogenic BMSCs were able to survive and generate new bone formation in the posterolateral lumbar spine of non-immunosuppressed rabbits.

Based on previous studies which used human grafts in non-immunocompromised rats we started by small number of rats in the first week to observed any clinical signs of rejection. Clinically after local application of PRF in tibiae bone defects, there was no swelling, inflammation or any signs of rejection in the rats compared to the control group in the first week after surgery. Moreover, through the inspection of histological sections of the PRF group using the H&E stain, there was no leukocytic infiltration or multinucleated eosinophilic giant cells. The PRF group showed enhanced bone formation when compared to the control group at the end. This may be attributed to the small volume of the PRF which was not enough to stimulate immune system. Our study

mainly aimed to suggest the use of SIM/PRF combination in human bone defects using autologous PRF from the patient before surgery. (Kim et al. 2008)

References

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Shereen N. Raafat (Dr)

Department of Pharmacology and Toxicology, Faculty of Dentistry, British University in Egypt

E-mail address: shereen.nader@bue.edu.eg