

2nd International Conference on **Animal & Dairy Sciences**

September 15-17, 2014 Hyderabad International Convention Centre, India

Healing potential of homologous cell loaded cholecyst derived scaffold for treating full thickness cutaneous burn wound in rabbit model

Deepa Revi, Jaseer Muhamed, Geetha Surendren, Akhila Rajan and T V Anilkumar
Sree Chitra Tirunal Institute for Medical Science and Technology, India

Graft-assisted healing is often proposed for clinical management of large sized third degree cutaneous burn wounds. Cholecyst-derived scaffold prepared by a non-detergent/enzymatic activity has been shown to have wound healing potential in animal models. We used porcine cholecyst-derived scaffold for preparing bio-artificial grafts by loading homologous (lapine) fibroblasts and then evaluated its healing potential in a rabbit model of full thickness skin-burn wound. Uniform full thickness burn wound were made on rabbit dorsum using in-house custom made burn making device. The wound healing potential between homologous fibroblast loaded cholecyst derived scaffold and non cell loaded cholecyst scaffold was compared *in vivo*. Wound healing parameters such as the extent of re-epithelialisation, collagen deposition and neo-vascularisation were histomorphometrically examined in the post-graft skin-wound samples during 7, 14 and 28 days using procedures followed in the laboratory. Immunohistochemistry was also performed to quantify the number of proliferating cells and alpha smooth muscle actin (myofibroblast) around the graft site. It was demonstrated, using the rabbit burn wound model, that fibroblast loaded cholecyst derived extracellular matrix showed faster wound healing compared to the bare cholecyst derived extracellular scaffold.

deepa.revi@gmail.com