J Clin Exp Dermatol Res 2016, 7:9 (Suppl)
http://dx.doi.org/10.4172/2155-9554.C1.051

Evaluation of the use of allantoin for reducing inflammation in the skin of patients with psoriasis

Ilnaz Rashidi[1], Masood Sahraie Rad[2], Ali Karimi Bakhshandi[1] and **Tahereh Rezazadeh[2]**
[1]Islamic Azad University, Iran
[2]Pars AzmayeTeb Co., Iran

Psoriasis is an autoimmune disease that is associated with itching and inflammation. In this disease, macrophages and dendritic cells make T-cells activated and differentiate them into T-helper 1 and T helper 7. Then, a number of cytokines release from these cells. For example, the expression levels of IFNγ decreased and it leads to irregular proliferation of keratinocytes or the reduction of TNFα resulted in inflammation. Also, the expression levels of IL4 and IL5 increased. Finally, it can also cause inflamed and thick in the skin. In this disease, itching, inflammation and severe dryness occur due to increase cell layers. Allantoin was used in the Cerita anti-psoriasis shampoo in order to create more hydration and decrease inflammation. The precursor of allantoin is uric acid. Therefore, 5 percent of uric acid was used in shampoo combination. As a result, allantoin helps to improve wound and inflammation by decreasing the expression of IL 4 and IL5. In this study, in specified areas of the scalp in 24 patients the red pigment was measured by colorimeter. Then, patients were asked to use Cerita anti-psoriasis shampoo every other day for 2 months. After, were measured from the representative area of the scalp and compared for the color difference. The results confirmed that allantoin decreases the inflammation.

rashidi_elnaz@yahoo.com

Controlled delivery of kynurenic acid: A novel approach to prevention of post-surgical fibrosis

Layla Nabai, Malihe-Sadat Poormasjedi-Meibod, Ryan Hartwell, John Jackson and Aziz Ghahary
BCP Firefighters' Burn & Wound Healing Research Laboratory, Canada

Statement of the Problem: Hypertrophic scars and keloids are devastating fibrotic conditions. Despite advances in knowledge and various therapeutic methods prevention and treatment of these conditions remains a challenge. Our group has previously shown that kynurenic acid (KyA) as a topical formulation reduces hypertrophic scarring in rabbit ear model. In this study we hypothesized that the use of a biocompatible and biodegradable polymer microsphere for controlled slow release of KyA will reduce fibrosis in closed wound in a rat model.

Methods: The FDA approved Poly (lactic-co-glycolic acid) (PLGA) polymer was used to encapsulate KyA. An animal model of wound healing which involves subcutaneous implantation of pre-cut PVA sponges in rat was used to evaluate the *in vivo* efficacy of the microspheres.

Results: The *in vitro* experiments revealed a successful encapsulation of KyA (average encapsulation efficiency=80.65±18.49%) and a release profile that showed a gradual release over 35 days following a lag phase for 30 days. Both histological examination and hydroxyproline assay of the samples harvested after 66 days revealed a significant reduction in collagen deposition inside and around the PVA sponge implants loaded with KyA microspheres compared with the PVA alone or loaded with empty microspheres (0.3±0.5, 6.74±2.77, 2.7±0.89 mg collagen/PVA respectively). There was no significant difference between samples collected after 35 days.

Conclusion & Significance: Our data suggests that gradual release of KyA after 30 days can prevent fibrosis *in vivo* while the lag phase allows normal healing process to occur. This drug delivery system provides a novel approach toward prevention of fibrosis after surgical interventions.

Notes:

lnabai@yahoo.ca