

6<sup>th</sup> International Conference on

# Clinical and Experimental Dermatology

May 04-06, 2016 Chicago, USA

## Development of a nano-fibrous wound dressing with an anti-fibrogenic properties *in vitro* and *in vivo* model

Malihe-Sadat Poormasjedi-Meibod  
University of British Columbia, Canada

More than 15 million patients develop pathological scarring each year following elective operations, surgical procedures and deep dermal trauma. These scars, that cause major functional, cosmetic, psychological and social consequences for the patients, impose a significant financial burden on health care systems. The current treatment modalities for these pathological conditions vary from topical application and intralesional injection of anti-scarring agents to surgical revisions and radiotherapy. The limited efficacy of these therapeutics for prevention of scar formation raised a great need for innovation within the wound care industry. Recently Kynurenine (Kyn), a tryptophan metabolite has been identified as a potent anti-fibrotic agent. Kyn prevents scar formation by enhancing the expression of extracellular matrix (ECM) degrading enzymes, matrix metalloproteinases (MMPs) and suppressing the expression of collagen. Although daily topical application of Kyn-cream improved the wound-healing outcome in animal models, this method of drug delivery is not clinically practical in situations where dressings need to be kept on for 3-5 days. In this study, we report the fabrication of nano-fibrous wound dressing for slow and controlled release of Kyn or its metabolites. In addition, we evaluated the anti-scarring efficacy of these dressings *in vitro* and in open wounds in animal models. The findings of this study demonstrated that development of an anti-fibrogenic dressing is feasible and as such its application would overcome the difficulties associated with development of hypertrophic scarring frequently seen in millions of patients worldwide.

### Biography

Malihe-Sadat Poormasjedi-Meibod has completed her PhD at University of British Columbia and currently working as a Postdoctoral research fellow at International Collaboration on Repair Discoveries. She has published 9 papers in reputed journals and has been serving as the President of the Canadian Biomaterial Society BC student chapter since 2012.

[malihe.p.meibod@gmail.com](mailto:malihe.p.meibod@gmail.com)

### Notes: