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A new approach in preventing hypertrophic scarring/keloid

Wound healing outcome is regulated by a fine balance between deposition and degradation of extracellular matrix (ECM). Over healing formation such as keloid is mediated by exaggerated ECM deposition and abnormalities in ECM degradation. Current treatment modalities for prevention of keloid and hypertrophic scarring have limited efficacy, which raised a great need for innovation within wound care industry. Moving toward novel approaches to prevent these devastating conditions, we identified the anti-scarring properties of Kynurenic acid (KynA), a naturally occurring small molecule generated from tryptophan degradation. To slow down/prevent keloid and hypertrophic scar formation, we have delivered KynA within the wounds before and/or during epithelialization by using either topical application of KynA containing cream or KynA slow releasing dressing. The results showed a significant outcome improvement in a fibrotic rabbit ear model received this therapeutic agent. During the course of this talk, the challenges associated with dermal fibrosis will be presented, the reason for choosing KynA as a potent anti fibrogenic factor will be discussed, *in vitro* data on efficacy of KynA as an ECM modulating factor in favor of improving the wound healing outcome will be presented, the benefit of using KynA in a topical cream and slow releasing dressing on a fibrotic rabbit ear model will be shown, finally the safety result of KynA cream in a phase 1 clinical trial will be presented. At the end, the conclusion and the future direction of using KynA as a potent anti-fibrogenic factor for treatment of keloid and hypertrophic scarring will be presented.

Biography

Aziz Ghahary, PhD and Professor, is the Director of the BC Professional Firefighters 'Burn and Wound Healing Research Group and has published more than 168 peer-reviewed articles some of which directly related to autoimmune diseases such as type I diabetes. He has been awarded more than 50 research grants from different local, national and international granting agencies. He is the leading investigator in identifying a serum 14-3-3 eta protein as a biomarker for early detection of RA and psoriatic RA and this test has now been launched by the Quest Diagnosis and Lifelab in US and Canada, respectively. Finally, he recently identified a small molecular with anti-scaring properties, which has now been approved by the Health Canada and the Vancouver General Hospital Ethic Committee to proceed to Phase 1 Clinical Trial.

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