## 11th Global Dermatologists Congress

November 14-15, 2016 Dubai, UAE

## Adult and fetal mesenchymal stem cells derived secretome: A new approach to skin wound healing management

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Cutaneous wound healing is a serious worldwide problem that affects patients with various wound types, resulting from burns, diabetes and traumatic injuries. There is evidence that resident cells in non-healing wound bed are phenotypically altered, such as prolonged exposure to inflammatory cytokines, reactive oxygen intermediates and bacterial toxins, all these contribute to fibroblasts senescence and further suppression of the normal healing process. Standard therapeutic modalities in clinical practice include debridement, pressure offloading, dressing regimens, hyperbaric oxygen, antibiotics and topical growth factors. However, even with most current therapies, more than 50% of chronic wounds remain refractory to treatment. During the past decade, fetal and adult tissue-derived mesenchymal stem cells have rapidly evolved from *in vitro* and animal studies into human trials as a therapeutic modality for a diverse group of clinical applications. Stem cell biology has gained remarkable interest in recent years, driven the hope and finding cures for numerous diseases including skin wound healing through transplantation medicine. Initially upon transplantation, these cells home to and differentiate within the injured tissue, contrary-wise, it now appears that only a small percentage of transplanted cells integrate and survive in the host tissue. Thus, the foremost mechanism by which stem cells participate in tissue repair seems to be related to their trophic factors. Indeed, stem cells provide the microenvironment with a wide range of growth factors, cytokines and chemokines, which can be broadly defined as stem cells secretome. The objective of this paper is to report the use of fetal and adult stem cells derived secretome as a treatment for many types of huge chronical non-healing ulcers.

## Biography

Indah Julianto has completed her PhD in 2006 from Airlangga University School of Medicine in Surabaya, Indonesia. She has published several papers in reputed journals and has been serving as Editorial Board Member of repute for Indonesian dermatology journals. She is a frequent speaker regarding stem cells and its uses in international and national conferences since 2010. She also lectures about stem cells to various specialties in Sebelas Maret University, University of Indonesia and North Sumatera University.

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