

# 7<sup>th</sup> Indo Global Diabetes Summit and Medicare Expo

November 23-25, 2015 Bengaluru, India

## Polymeric electro-spun scaffold functionalized with hyper-oil: A new frontier in tissue repair without hospitalization

**Maria Letizia Iabichella**

Helios Med Onlus, International Health Cooperation, Italy

The efficacy of the treatment with Hyper-oil (mixture of Hypericum perforatum flowers extract and Azadirachta indica oil) in advanced ulcerated diabetic, vascular and neuropathic feet was described in previous reports. Several surprisingly successful outcomes for infection damaged diabetic foot, without prior use of surgical procedure, demonstrated the great potential of the Hyper-oil. In fact, the effective use of treatment with Hyper-oil in patients with foot diabetic lesions was proved in a case series study. Current research lines in regenerative medicine focus on the creation of scaffolds with specific functionalities and structurally similar to the fibrous component of the extra-cellular matrix, thus providing a bio-mimetic environment for cellular growth. The use of electro-spun scaffolds made by Poli (L-lactic acid, PLLA) functionalized with Hyper-oil, having anti-infective properties, was recently demonstrated by using *S. aureus*, *P. aeruginosa* and *K. ozaenae* AM strains. In our preliminary observations, the scaffold functionalized with Hyper-oil was applied directly in cleaned skin ulcers after debridement, showing also anti-inflammatory and tissue regeneration properties without perilesional damage. In particular, the bio-mimetic structure of the PLLA mat remarkably improves the tissue repair efficacy of Hyper-oil used as regenerative skin graft easing wound healing time, avoiding surgical procedures in operating room and high costs for hospitalization. The outcome of the cooperation between regenerative medicine and tissue engineering fields lead to the development of scaffolds functionalized with Hyper-oil which might be used in extensive skin tissue loss like Buruli ulcer and burns due to their bacterio-static, anti-inflammatory and regenerative properties.

### Biography

Maria Letizia Iabichella is a Medical Doctor graduated at the University of Pisa (Italy) and specialized in Angiology. She is interested in clinical and home wound care management and in micro-vascular research by non-invasive diagnostic methods. She is currently a Lecturer at the University of Siena (Italy) and author of several articles. She has developed a new method to treat vascular, diabetic and Buruli ulcer with ozone. She founded Helios Med Onlus, International Health Cooperation, in 2011 aimed at training staff to perform social and health activities and sharing wound care know how through missions abroad.

[marialetizia.focarete@unibo.it](mailto:marialetizia.focarete@unibo.it)

### Notes: