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Title: Drug Delivery Systems for Diabetic Foot Ulcer Treatment

Abstract : Foot ulcers are a major secondary complication in individuals with diabetes, and a significant proportion of them result in lower limb amputation. Current strategies to treat such diabetic wounds focus primarily on preventing infection or further damage, and not necessarily on promoting wound healing. Normal wound healing proceeds through four sequential phases; development of inflammation, immunomodulation, tissue regrowth and remodeling. In diabetic individuals, cells involved in each step of this process are compromised. Recently developed therapeutic interventions for foot ulcers focus on the tissue regrowth phase, however, it is believed that without satisfactory treatment of the localized inflammatory microenvironment, the ulcers will not completely heal. To develop better therapies for patients with diabetic ulcers, it is imperative that we understand the inflammatory microenvironment of the ulcers as well as the immuno-pathology of diabetes.

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Professional Biography

Siddharth Jhunjunwala is an Assistant Professor at the Centre for BioSystems Science and Engineering, Indian Institute of Science, Bengaluru. He graduated from Anna University (Chennai), obtained a doctoral degree in Bioengineering from the University of Pittsburgh (Pittsburgh), and completed a postdoctoral fellowship from the Massachusetts Institute of Technology (Cambridge). He joined as a faculty at IISc in 2016. He is currently a Ramanujan Fellow and has been awarded the R.I. Mazumdar young investigator position at IISc in the past. In collaboration with numerous colleagues, Siddharth has published over 30 journal articles and has been awarded 2 international patents. His primary research interest is in the field of Immuno-engineering.