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Complete healing of a non-healing diabetic foot ulcer within one month and persisting for three years using autologous adipose tissue-derived Stromal Vascular Fraction and Platelet Rich Plasma

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The aim of the present study was to investigate the efficacy of the adipocyte tissue-derived Stromal Vascular Fraction (SVF) and Platelet Rich Plasma in a non-healing diabetic ulcer. A woman with Diabetes Mellitus (DM) type 1, aged 47 years old, with duration of DM 24 years, presented for first time two years ago, with a non-healing ulcer in the plantar surface of the right foot under the second metatarsal head. Osteomyelitis observed after the first visit of the patient in our outpatient clinic with Magnetic Resonance Imaging. The patient received treatment with antibiotics for six months and at the end of the treatment, the labelled white blood cells scan was normal. But, there was no evidence of closure of the ulcer for another six months, despite our efforts. So, we decided to apply autologous adipocyte tissue derived- SVFs to the site of the ulcer. A piece of about 60ml adipose tissue was collected by lipectomy performed by a surgeon from the abdominal subcutaneous area under local anesthesia. For the preparation of adipose tissue derived SVF and the method of collagenase digestion was applied. The cells were then rate controlled frozen and stored in liquid nitrogen until use. Before application the cells were rapidly defroze n at 40oC washed twice with PBS, and resuspended in 2mL of the patient's serum. Injection of the SVFs in the ulcer site made in April 2013. After a month of the SVFs injection there was complete closure of the ulcer with normal dermal appearance. No side effects observed during the follow up period. After 3 years of follow up there is still complete healing of the ulcer. In conclusion, administration of autologous adipocyte tissue derived-Stromal Vascular Fraction and Platelet Rich Plasma achieved complete healing of the diabetic refractory to other treatment ulcer. This intervention may be helpful for other same cases in future.

Biography

Prof. Triantafyllos Didangelos has completed his PhD at the age of 39 years from Aristotle University of Thessaloniki, Greece, and postdoctoral studies from Aristotle University of Thessaloniki, School of Medicine. He is the Head of Diabetes Center, First Propedeutic Department of Internal Medicine, AHEPA Hospital, Medical School, Aristotle University of Thessaloniki, Greece a premier outpatient clinic. He has published more than 50 papers in reputed journals and has been serving as an editorial board member of repute.

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