Autologous Skin Cell Suspension May Enhance Healing of Burn Wounds and Skin Graft Donor Sites in Elderly Burn Patients

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Introduction

An autologous skin cell suspension (ASCS) containing keratinocytes, fibroblasts, and melanocytes can be processed from a small split thickness skin sample for use at the point-of-care in the operating room. ASCS have been shown to facilitate epidermal regeneration in large TBSA partial thickness burns with minimal donor site morbidity.

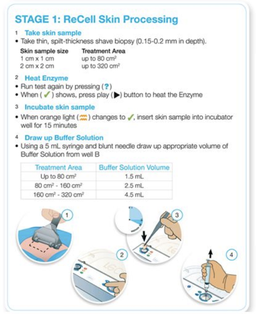
Aim

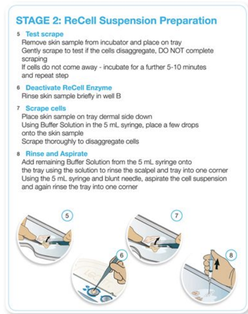
We aim to test the efficacy of ASCS in conjunction with split thickness skin grafting to enhance healing in the elderly burn population.

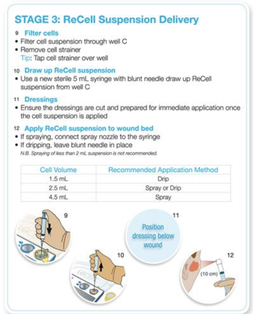
Hypothesis

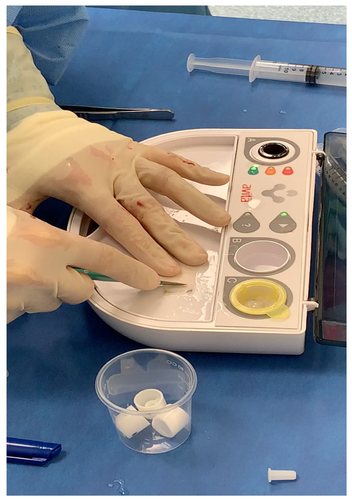
We hypothesized that ASCS in conjunction with a 3:1 split thickness skin graft could be used to facilitate healing in a 95 year-old female otherwise healthy burn patient with 12% TBSA deep partial and full thickness scald burns to the abdomen and bilateral thighs. To our knowledge, she is the oldest patient to undergo epidermal autografting with ASCS.

Methods

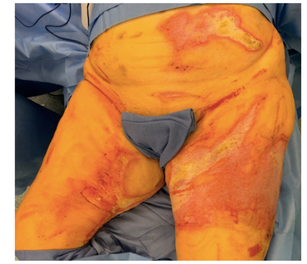


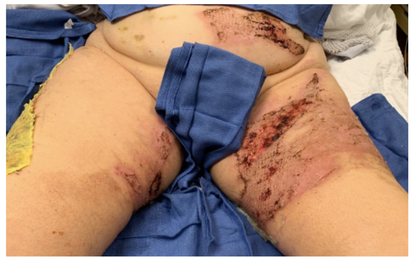






Results





Discussion

We demonstrate that ASCS enhanced rate of re-epithelialization of burn wounds in a 95 year-old patient compared to our experience with skin grafting alone in this population. ASCS also promoted complete healing of the donor site by POD 10. This technology may have an important role in decreasing healing time in the geriatric burn population. These findings are important for this population as longer lengths of stay are associated with delirium, hospital acquired infections, and deconditioning.