Early experience with autologous whole blood clot therapy in treatment of chronic wounds

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BACKGROUND

The ultimate goal with wound healing is to regrow functional tissue, some novel autologous cell-based therapies may be promising to do this. Whether from skin, blood or marrow, they are affordable, readily sourced and 100% biocompatible. Blood contributes circulating stem cells and growth factors and once clotted, can form a protective covering and scaffold to protect and promote healing. ActiGraft® (RedDress Medical) is an autologous whole blood clot therapy (ABCT) used as point-of care treatment that we tried on non-healing wounds

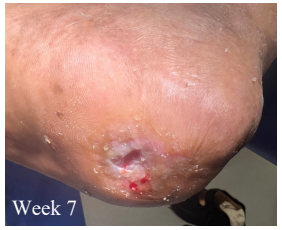
METHODS

3 patients with vascular disease related lower extremity ulcers were enrolled as part of a registry study (ClinicalTrials.gov: NCT04699305). At weekly visits, ulcers were washed and debrided. A blood clot was created using 10-mL of patient's own peripheral blood mixed with calcium gluconate and kaolin. The ABCT was applied directly to the wound with an absorbent dressing and appropriate secondary dressing. Ulcer size and patient pain levels were recorded each visit.

RESULTS

Three patients have been treated to date.

- A 65 year-old male with peripheral arterial disease the plantar diabetic foot ulcer that was refractory to previous skin substitutes. After 6 applications of ABCT is wound area to reduce by 93%.



- A 52 year-old male with a RLE ulcer that has failed to close despite numerous therapies, had 6 applications of ABCT, there was 10% area reduction of ulcer.

- A 71 year-old male, with a small, but deep mixed arterial-venous leg ulcer that failed to progress with cadexomer iodine gel received 5 applications of ABCT. The wound became notably shallower and 33% smaller. Patient reported less pain with each application. However, both leg ulcer patients developed periwound maceration.

Week 1

Week 5

DISCUSSION

ABCT appears to work well for challenging plantar DFU, but less so on atypical chronic ankle ulcerations. The size of the blood patch may be unfavorable for smaller wounds that do not require such large surface area and makes it challenging to protect the periwound area. Overall, this therapy is relatively quick to produce and apply.