

Sheehan P, Jones P, Caselli A, Giurini JM, Veves A. Percent change in wound area of diabetic foot ulcers over a 4-week period is a robust predictor of complete healing in a 12-week prospective trial Diabetes Care. 2003 Jun;26(6):1879-82

Abstract

OBJECTIVE:

To assess the ability of the 4-week healing rate to predict complete healing over a 12-week period in a large prospective multicenter trial of diabetic patients with foot ulceration.

RESEARCH DESIGN AND METHODS:

We examined the change in ulcer area over a 4-week period as a predictor of wound healing within 12 weeks in patients who were seen weekly in a prospective, randomized controlled trial.

RESULTS:

Wound area measurements at baseline and after 4 weeks were performed in 203 patients. The midpoint between the percentage area reduction from baseline at 4 weeks in patients healed versus those not healed at 12 weeks was found to be 53%. Subjects with a reduction in ulcer area greater than the 4-week median had a 12-week healing rate of 58%, whereas those with reduction in ulcer area less than the 4-week median had a healing rate of only 9% ($P < 0.01$). The absolute change in ulcer area at 4 weeks was significantly greater in healers versus nonhealers (1.5 vs. 0.8 cm², $P < 0.02$). The percent change in wound area at 4 weeks in those who healed was 82% (95% CI 70-94), whereas in those who failed to heal, the percent change in wound area was 25% (15-35; $P < 0.001$).

CONCLUSIONS:

The percent change in foot ulcer area after 4 weeks of observation is a robust predictor of healing at 12 weeks. This simple tool may serve as a pivotal clinical decision point in the care of diabetic foot ulcers for early identification of patients who may not respond to standard care and may need additional treatment.