Treatment with supplementary arginine, vitamin C and zinc in patients with pressure ulcers: A randomised controlled trial

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Abstract

Summary
Background & Aims
Nutrients putatively implicated in pressure ulcer healing were evaluated in a clinical setting.

Methods
Sixteen inpatients with a stage 2, 3 or 4 pressure ulcer randomised to receive daily a standard hospital diet; a standard diet plus two high-protein/energy supplements; or a standard diet plus two high-protein/energy supplements containing additional arginine (9 g), vitamin C (500 mg) and zinc (30 mg). Nutritional status measurements (dietary, anthropometric and biochemical) and pressure ulcer size and severity (by PUSH tool; Pressure Ulcer Scale for Healing; 0=completely healed, 17=greatest severity) were measured weekly for 3 weeks.

Results
Patients’ age and BMI ranges were 37–92 years and 16.4–28.1 kg/m², respectively. Baseline PUSH scores were similar between groups (8.7±0.5). Only patients receiving additional arginine, vitamin C and zinc demonstrated a clinically significant improvement in pressure ulcer healing (9.4±1.2 vs. 2.6±0.6; baseline and week 3, respectively; P<0.01). All patient groups presented with low serum albumin and zinc and elevated C-reactive protein. There were no significant changes in biochemical markers, oral dietary intake or weight in any group.

Conclusions
In this small set of patients, supplementary arginine, vitamin C and zinc significantly improved the rate of pressure ulcer healing. The results need to be confirmed in a larger study.

Keywords:
Pressure ulcers, Healing, Nutrition, Arginine, Malnutrition

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