

Cost-Effectiveness Of Localized Topical Oxygen vs. Advanced Wound Care In Chronic Wounds

Aburto I¹, Rodrigo J¹, Frye C²

¹ Instituto Nacional de Heridas (INH), Minsal, Chile, ² AOTI Ltd., Galway, Ireland

Introduction

In the national survey of wounds and ulcers (Chile 2000) it was estimated that 1% of the population in Chile suffers from ulcers, at the lower limbs, which are difficult to treat and show high rates of complications. Our objective was to evaluate the cost-effectiveness of treatment with localized topical oxygen (TWO₂) vs. standard best practices of advanced wound care in patients with chronic ulcers.

Method

In a prospective randomized study, 45 patients were included at the National Wound Care Center in Santiago de Chile. 20 patients with deep venous ulcers, 20 with diabetic foot ulcers and 5 with hypertensive ulcers. All patients admitted to the study received TWO₂ therapy for 2 hours at cycling pressure of 50 mbar per day for one month. Patients were then split into two groups one of which one continued with TWO₂, the other one receiving advanced wound care.

Results

37 patients (82%) of the patients were transferred study center for minor or major amputation. All of these patients improved under the therapy and no patient underwent amputation. Initially, all patients had severe pain (Visual Analogue Scale) with pain levels of: 7-10). At the end of the study VAS scores were 0-1 in the TWO₂ group and 4-6 in the control group.

The best healing results showed in diabetic patients with 90% (9/10) healing within 12 weeks vs. 40% (4/10) in the controls.

Conclusion

Patients with complicated ulcers benefit from the treatment of topical localized oxygen (TWO₂), avoiding amputations and transmitted infection. We achieve a high percentage of healing, reduced pain, and improved quality of life in patients with chronic wounds. TWO₂ is cost-effective, especially in diabetic patients.

Figure 1: Number of closed wounds in different ulcers in TWO₂ group and control group

