

A NEW BREATH FOR CHRONIC WOUNDS: THE ROLE OF AN OXYGEN-ENRICHED OLEIC MATRIX IN DIABETIC FOOT ULCER HEALING

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BACKGROUND

The aim of this study was to evaluate the clinical efficacy of a dressing impregnated with an oxygen-enriched oleic matrix-based gel that provides pH control and the microrelease of Reactive Oxygen Species (ROS) in the treatment of diabetic foot ulcers (DFUs). The matrix leverages its ability to control the local wound microenvironment, supporting tissue repair and contrasting pathogen proliferation.

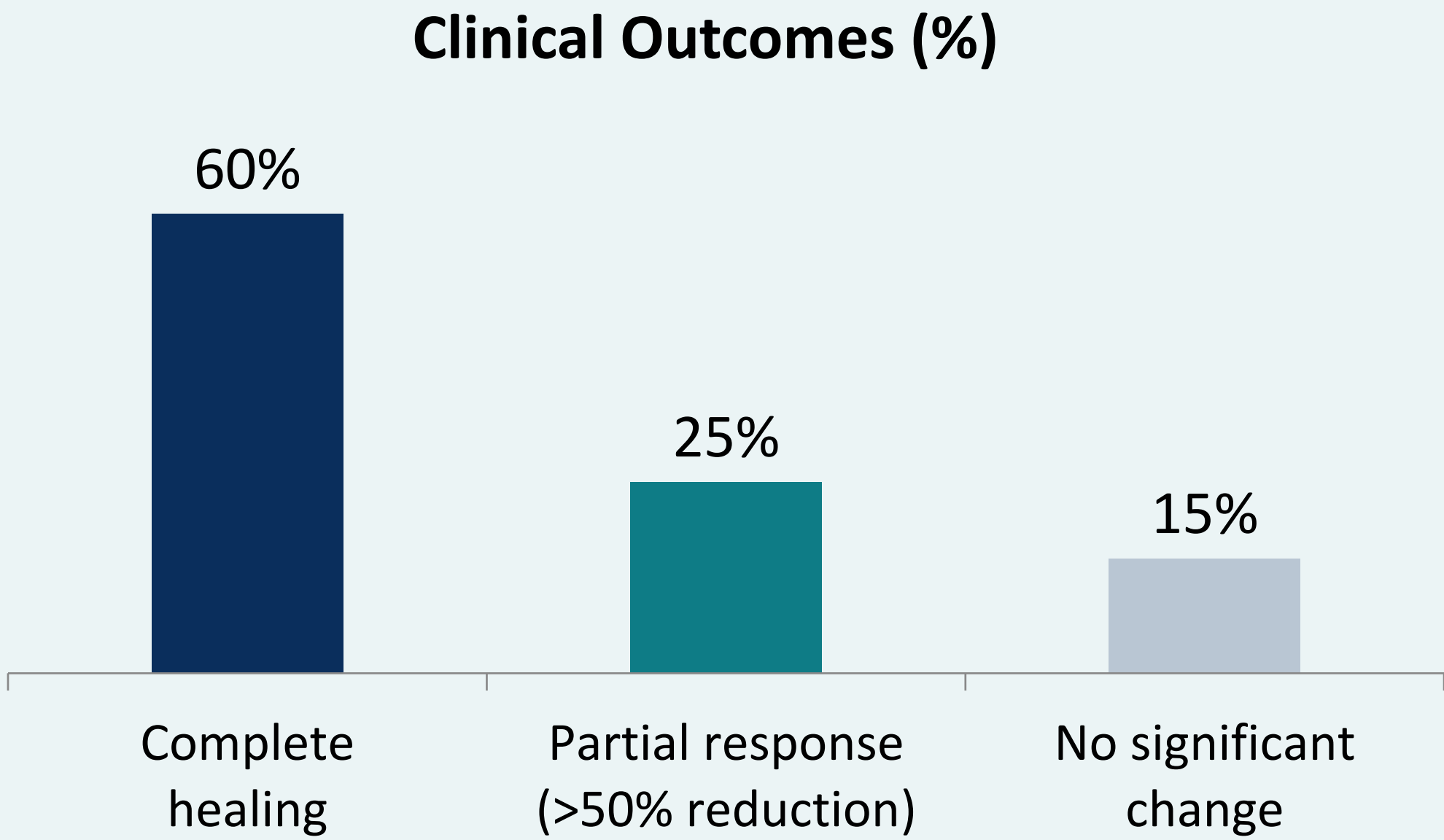
MATERIALS AND METHODS

- **Study Design:** Retrospective observational study conducted at the Diabetic Foot Unit of IRCCS MultiMedica S.p.A.
- **Population:** 20 patients with neuropathic (40%) or neuroischemic (60%) diabetic foot ulcers.
- **Protocol:** Patients treated with the oxygen-enriched oleic matrix dressing during scheduled clinical visits, September 2025 – January 2026.
- **Endpoints:** Complete healing, >50% reduction in ulcer surface area, and healing time

RESULTS

Twenty patients with type 2 diabetes mellitus complicated by DFU were included.

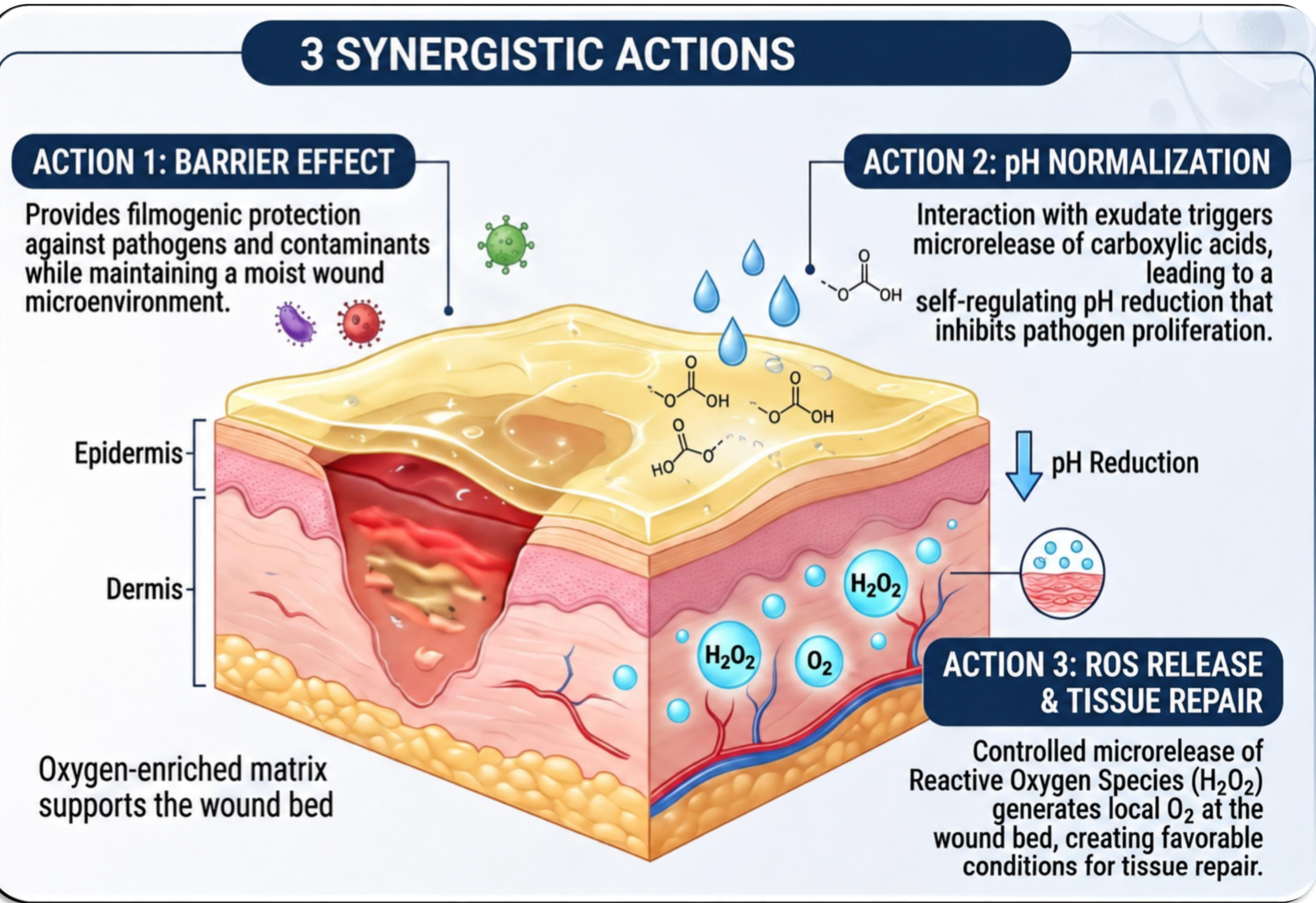
Study Population	Media ± DS / %
Patients enrolled (N)	20
Mean age (years)	70.5 ± 11.0
Mean diabetes duration (years)	15.6 ± 9.6
Neuropathic ulcers	8 (40%)
Neuroischemic ulcers	12 (60%)



Timeframe: The mean average time to healing or significant improvement was **5.1 ± 3.4 weeks**

MECHANISM OF ACTION

Oxygen-enriched oleic matrix functions through three synergistic actions:



LESIONS' CLINICAL PROGRESSION



CONCLUSIONS

The use of this oxygen-enriched oleic matrix dressing is an effective therapeutic option for treating diabetic foot ulcers, promoting healing or significant improvement in the vast majority of cases. Its integration into standard wound care protocols represents a promising strategy for optimizing clinical outcomes and reducing the duration of chronic wound management.