

**ANALYSIS OF THE LITERATURE AND CONSIDERATION OF THE ROLE OF THE SILVER ION IN THE TREATMENT OF CHRONIC WOUNDS**

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A review of the literature sought to assess the impact of bacterial load on the course of chronic wounds, the role of inflammation and the role of silver ions. Potential avenues for consideration emerged from this study with respect to the action of silver in the treatment of venous ulcers, the majority of the published data concerning these chronic wounds.

- Several authors have reported a correlation between a high level of bacterial colonisation and delayed healing.
- A high level of bacterial colonisation leads to an inflammatory reaction: production and release of MMPs, elastase, free radicals, etc. that may encourage the wound to become chronic.
- The silver ion has antibacterial properties.
- The silver ion has an anti-inflammatory effect related to its antibacterial action, but probably also a specific anti-inflammatory action, as is demonstrated by studies conducted in animals: prevention of cutaneous infiltration by inflammatory cells, stimulation of apoptosis, reduction in the production of cytokines (TNF- $\alpha$ , IL-12), inhibition of MMPs.
- In controlled clinical trials using silver-containing dressings in venous ulcers, the ulcers included are long-standing, stagnant and present inflammatory signs, probably with a high level of bacterial colonisation. In comparison with the control groups, these studies demonstrate a rapid and sustained retriggering of the wound closure rate. The "trajectory" of the course of these ulcers is favourably shifted, with this shift continuing beyond the period of silver use.

Reducing bacterial load and inflammatory reaction by using silver seems to be an interesting therapeutic approach when faced with a stagnant ulcer presenting inflammatory signs suggestive of a high level of bacterial colonisation.