Chronic wounds and local malpractice: an antimicrobial silver soft silicone foam can help solving the problem

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Introduction

Chronic, colonized leg ulcers, where risk of infections exists, can be a real challenge for a clinician notwithstanding skills and experience in advanced wound care treatments and the respect of recognized guidelines.

Skin ulcers can have similar features: critical colonization, resistance to multiple bacteria, previous fluid/solid dressings hypersensitizing consequences or allergy-inducing, compromised surrounding skin (distress) and occasional pain at dressing removal.

Reduced compliance with treatments, decreased trust in care-givers (physicians and/or nurses) and worsening basic disease are, on the contrary, the most common systemic features.

For some months, in the Vulnotherapy Unit of the Army Military Hospital-Rome, we have been using an antimicrobial soft silicone foam with silver*, as the local dressing for highly colonized chronic wounds where a risk of infection has been identified.

A specific clinical form was assigned to each patient undergoing treatment with the silver soft silicone foam: wound feature variations, photos and microbiological cultural results were reported.

*Mepilex AG, Mölnlycke Health Care AB

Table 1

Ulcers aetiology		
	Number	%
Venous	8	33.33%
Arterial	2	8.33%
Mixed Arterial/Venous	6	25.00%
Diabetic Foot	4	16.67%
Other	4	16.67%
Total number of patients	24	

Table 2

Pain evaluation				
Number of patients	Baseline	Final visit	% Baseline	% Final visit
High level	5	0	20.83%	0.00%
Moderate level	15	7	62.50%	31.82%
Low level	4	15	16.67%	68.18%
Total number of patients	24	22		

Ulcers aetiology

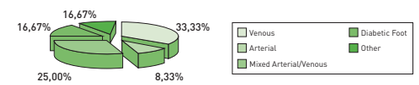


Table 4

	Reduction of bacterial burden of Staphylococcus aureus	Reduction of bacterial burden of Pseudomonas aeruginosa	Reduction of bacterial burden of ORSA/MRSA**	Reduction of bacterial burden of other bacteria
Complete	3	3	3	5
High	1			2
Medium	1	1	1	
Low	4	5		1
None	2	4		

Reduction of bacterial burden

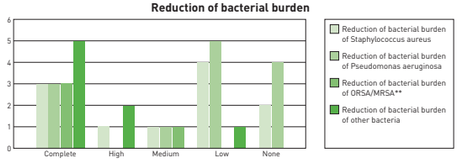
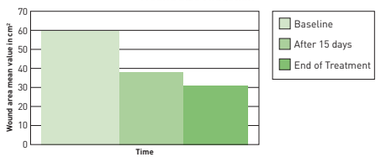


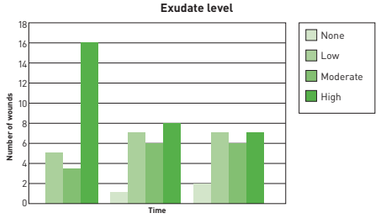
Table 3

	Previous treatment/ Baseline	After 15 days	End of treatment
Wound size	60.43 (0.96 - 374)	36.69 (0.8 - 154)	30.95 (0 - 130)
% of wound area change from baseline		-39.28	-48.78
Healthy/Inctat			3 completely healed 8 greatly improved
Exudate level			
None	0	1	2
Low	5	7	7
Moderate	3	6	6
High	16	8	7

Wound size reduction



Exudate level



Aim

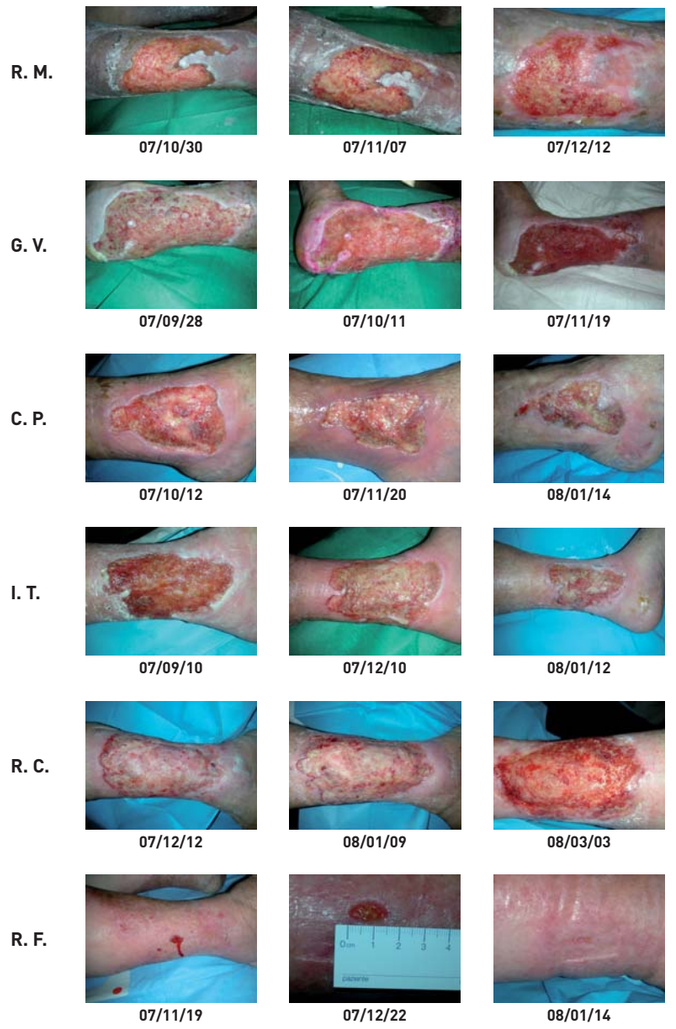
The primary objective was to investigate how best practice can reduce time to healing in infected, aged and malpractice treated wounds.

Materials and Methods

The study was designed as a non-comparative open regime evaluation, and the study period was approximately of four weeks. 24 patients of both genders (15 females and 10 males) aged from 58 to 99 years, were recruited into the study. Most ulcers had already been previously treated, both locally and systemically, in other hospitals or at home, with little or no improvement and most of them had showed long term bacterial colonization. In some cases, a worsening topical condition was even reported.

Two patients did not complete the treatment period due to worsening of primary disease condition, not related to the ongoing wound treatment.

The aetiology, reported in *Table 1*, of the ulcers was the following: 7 venous, 2 arterial and 5 mixed arterial/venous leg ulcers, 3 diabetic and 2 pressure ulcers. The silver-containing soft silicone foam dressing was applied after wound disinfection and skin cleansing. The average dressing change was twice a week, except for special situations where more frequent changes were done, due to the high amount of exudate. Microbiological cultural swabs were carried out at the first visit and repeated after 15 and 30 treatment days.



Results

The data presented in *Table 3* sharply show how a correct use of a silver dressing in the treatment of chronic wounds that have suffered from a long time of incorrect treatment and hence could present a long term colonization, can achieve good results.

In particular we want to emphasise the following:

- Increase in the number of healthy wounds: 3 completely healed and 8 with greatly improved healthy conditions
- Reduction of wound size: nearly by 40% after 15 days, and nearly by 50% at the end of treatment, approximately after 30 days
- Reduction of number of patients with highly exudating wounds
- Reduction of number of patients with pain: at the final visit more than 60% of patients with low or no pain (*Table 2*).

Furthermore, according to the analysis of the results of the microbiological cultural swabs, reported in *Table 4*, that was carried out at the first visit and at the end of treatment, we can assume how a silver-containing soft silicone foam dressing shows an important efficacy in particular on the following bacteria, even after a long period of inferior treatment: *Staphylococcus aureus, ORSA/MRSA**, *Acinetobacter baumanii, Morganella morganii* and *Enterococcus faecalis.*

**Oxacillin-resistant Staphylococcus aureus/Methicillin-resistant Staphylococcus aureus