

An open, parallel, randomized, comparative, multicenter study to evaluate the cost-effectiveness, performance, tolerance, and safety of a silver-containing soft silicone foam dressing (intervention) vs silver sulfadiazine cream

Silverstein P et al. Journal of Burn Care & Research. 2011;32(6): 617-26.

Aims

To compare the incremental costs (direct and indirect) and healing outcomes of Mepilex® Ag with silver sulfadiazine (SSD) cream and to compare the two treatments in terms of their performance, tolerance, and safety, including pain.

Method

Trial-based (multicenter, randomised controlled trial) economic evaluation study from the perspective of a healthcare provider.

Patients aged 5 years and older with partial-thickness thermal burns (2.5-20% BSA) were randomized into two groups

1. Mepilex® Ag
2. Silver sulfadiazine cream (Silvadene®)

Results

Clinical outcomes

Mean healing rates were 71.7% Mepilex Ag group vs 60.8% Silvadene group at the final visit.



The Mepilex® Ag group had a reduced hospital stay vs SSD ($p=0.034$).

Health costs and resources used

Difference in total mean cost of therapy per patient was statistically significant between the two groups ($p<0.001$):



Mepilex® Ag required less dressing changes than SSD (2.24 vs 12.4).

The average cost-effectiveness per treatment was \$381 lower in the Mepilex Ag group. An incremental cost-effectiveness ratio of \$1688 in favor of the soft silicone foam dressing is seen.

Pain

Mepilex® Ag was associated with less pain during dressing application ($p=0.018$) and during wear ($p=0.048$) compared to SSD at the end of week one.

Infectious complications were similar in the two treatment groups.

Mepilex® Ag proved to be as effective as silver sulfadiazine in healing time for the treatment of partial-thickness thermal burns. Mepilex® Ag was associated with reduced hospital stay, decreased pain, lower costs and ease of application compared to SSD.

Additional useful information

Outcomes measured

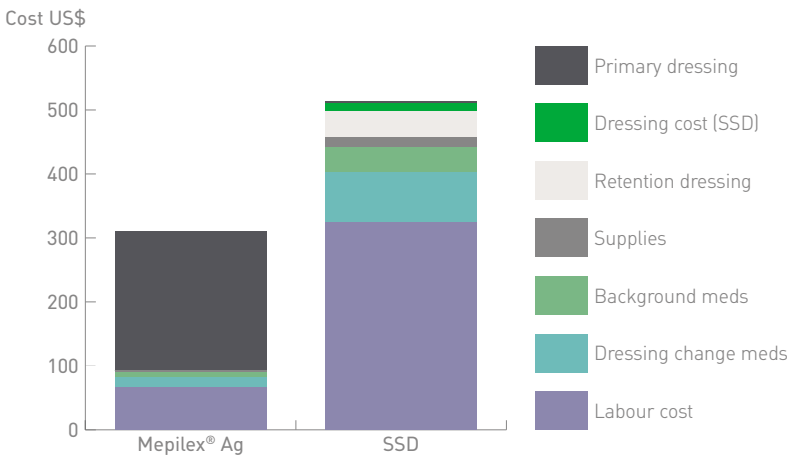
- The investigator made a subjective assessment of treatment efficacy at each formal assessment (excluding baseline) using a ranking system in terms of:
 - percentage of healing
 - ease of application
 - patient anxiety and pain during dressing changes (John Hopkins visual analogue scale)
 - dressing adherence to the wound bed and bleeding on dressing removal
 - flexibility and conformability of the dressing
- Patients recorded pain at dressing change, during wear and during application (Wong Baker Faces scale - for children, Johns Hopkins visual analogue scale - for adults) and rated their apprehension during dressing change, ease of movement, stinging or burning during dressing wear.
- Microbiological swabs were taken at baseline and subsequently as required.
- Time to discharge was recorded.
- Cost-related data were recorded at each dressing change.

Additional results

- 100 patients were randomised:
 - Mepilex® Ag (n=49)
 - SSD (n=51)

Health costs and resources used

Total cost of care for Mepilex® Ag and SSD treatment groups:



Cost-effectiveness for each treatment regime:

	Mepilex® Ag (n=47)	SSD (n=51)
Total cost of care (US\$), mean (SD)	309 (144)	514 (282)
Full re-epithelialisation in 21 days, n (%)	38 (78.3)	34 (66.2)
Average cost-effectiveness (US\$) (95% CI)*	395 (344–450)	776 (659–892)
Incremental cost-effectiveness ratio (US\$)**	-1688	

*Calculated from the total cost of care, divided by the proportion of patients with full re-epithelialisation.

**Calculated from the difference in total cost of care, divided by the difference in the proportion of patients with full re-epithelialisation.

Ease of use

Clinicians considered Mepilex® Ag to be superior to SSD in terms of ease of application (p=0.028) and flexibility (p=0.038).