

Introduction

Wound pain is a frequent and complex challenge in clinical practice, that negatively affects healing outcomes, reduces mobility and impacts on quality of life. The level of pain can be intensified by factors such as elevated bioburden/ infection, inflammation, high exudate, and trauma linked with dressing changes.

Polyhexamethylene biguanide (PHMB) foam dressings offer a combined approach to pain management by providing rapid antimicrobial activity while maintaining a moist, atraumatic healing environment, potentially reducing both infection-related pain and trauma-associated discomfort.

This study aimed to examine the effect of PHMB foam dressings on wound pain in patients presenting with moderate to severe pain.

Methods

As part of a large evaluation involving 185-patients, a series of clinical case studies was conducted over 4 weeks, involving patients with a variety of wounds, and reporting wound pain, measured using a Visual Analogue Scale (VAS figure 1), with a score of ≥ 5 . Patients were asked to record where they saw their pain on the line of the scale 10 representing the worst pain and 0 no pain. Each patient was assessed at baseline and monitored on a weekly basis. The wounds were treated with a PHMB foam dressing as part of a wound management plan. Additional qualitative observations were recorded e.g. exudate control, wound condition, and tolerance of dressing changes.

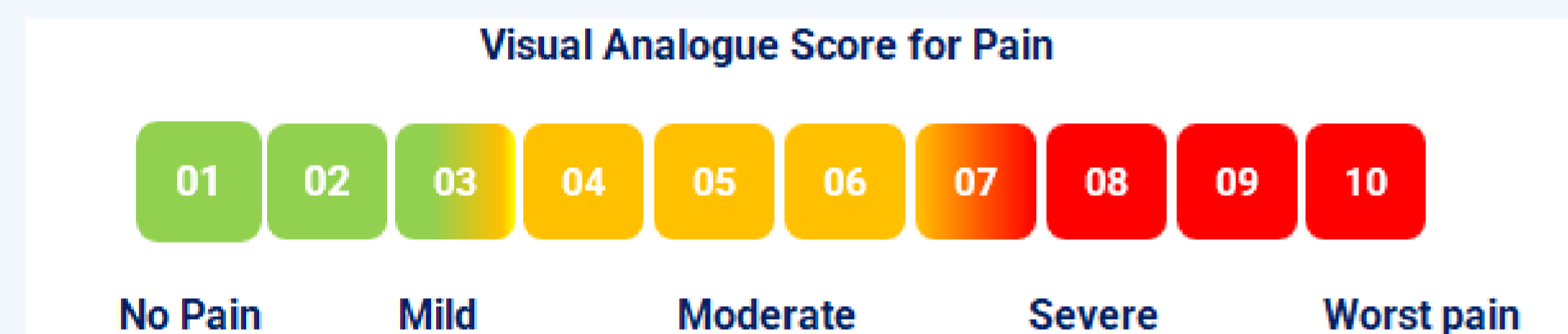


Figure 1 – VAS Pain score chart

Results

Patients with a diversity of wound types (figure 2) were recruited, presenting with wound pain score of ≥ 5 .

Wound Type	Proportion of Wounds Recruited
Leg/Foot Ulcer	32.0%
Pressure Ulcer	14.0%
Post Op Surgical Wound	23.3%
Diabetic Ulcer	14.0%
Superficial and Partial Thickness Burns	16.7%

Figure 2 – Wound types recruited

Results

Treatment management with PHMB foam dressings, demonstrated a marked reduction in VAS pain scores within the first 7 days, with a high number of cases that showed reductions from moderate–severe pain to mild levels, (dropping from over 80 patients to under 30). This subsequently resulted in improvement in the patient's quality of life.

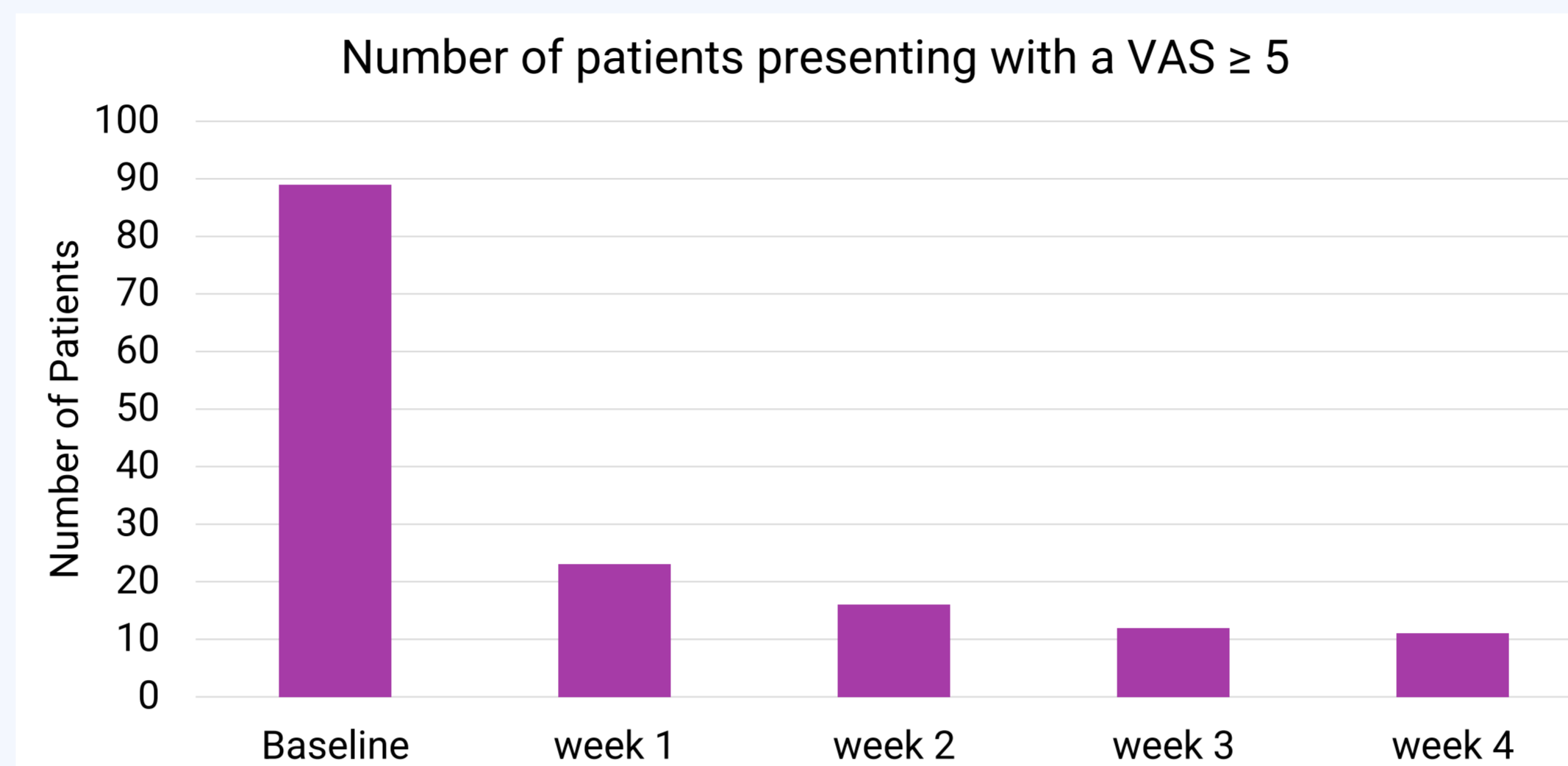


Figure 3 – Number of patients presenting each with was VAS pain score of 5 or more

On further investigation into pain reduction it was noted that those patients exhibiting particularly high pain scores ≥ 8 (41 patients), correspondingly reported a significant drop in their scores also within the first seven days. Mean score 9.1 reduced to 3.0 (figure 4).

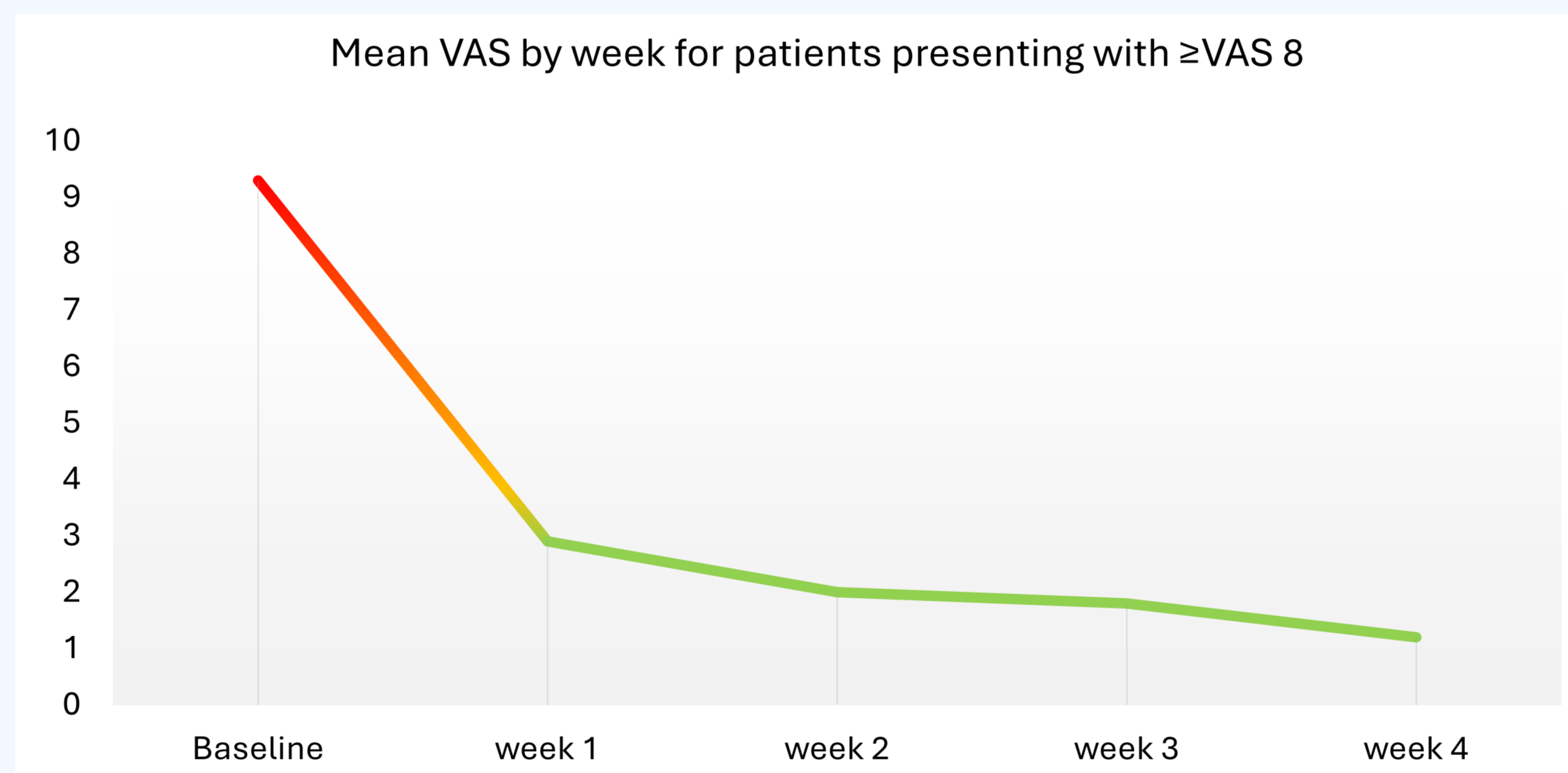


Figure 4 – Mean VAS score of patients who presented at baseline with VAS greater or equal to 8

Clinicians noted following the use of PHMB foam dressings improvements in infection markers, decreased local inflammation, exudate management, and measurable wound healing progress, contributing to an enhanced patient experience. (figure 5).



Figure 5 – Other conclusions from the evaluation

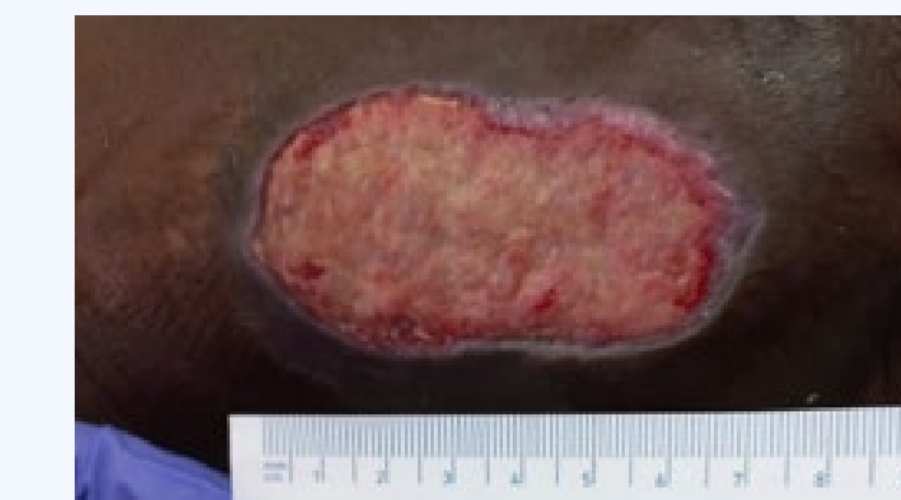
Case Study

A 50-year-old female with medical history of history- Diabetes, Venous Stasis, Peripheral Disease, and Cervical Cancer Presented with a leg ulcer right lateral ankle.



Initial assessment

Pain score VAS 6
Wound size L 7.2cm width 4.4cm, depth 0.1cm, area 31.68cm²
100% sloughy tissue with moderate exudate. Showing clinical signs of infection.



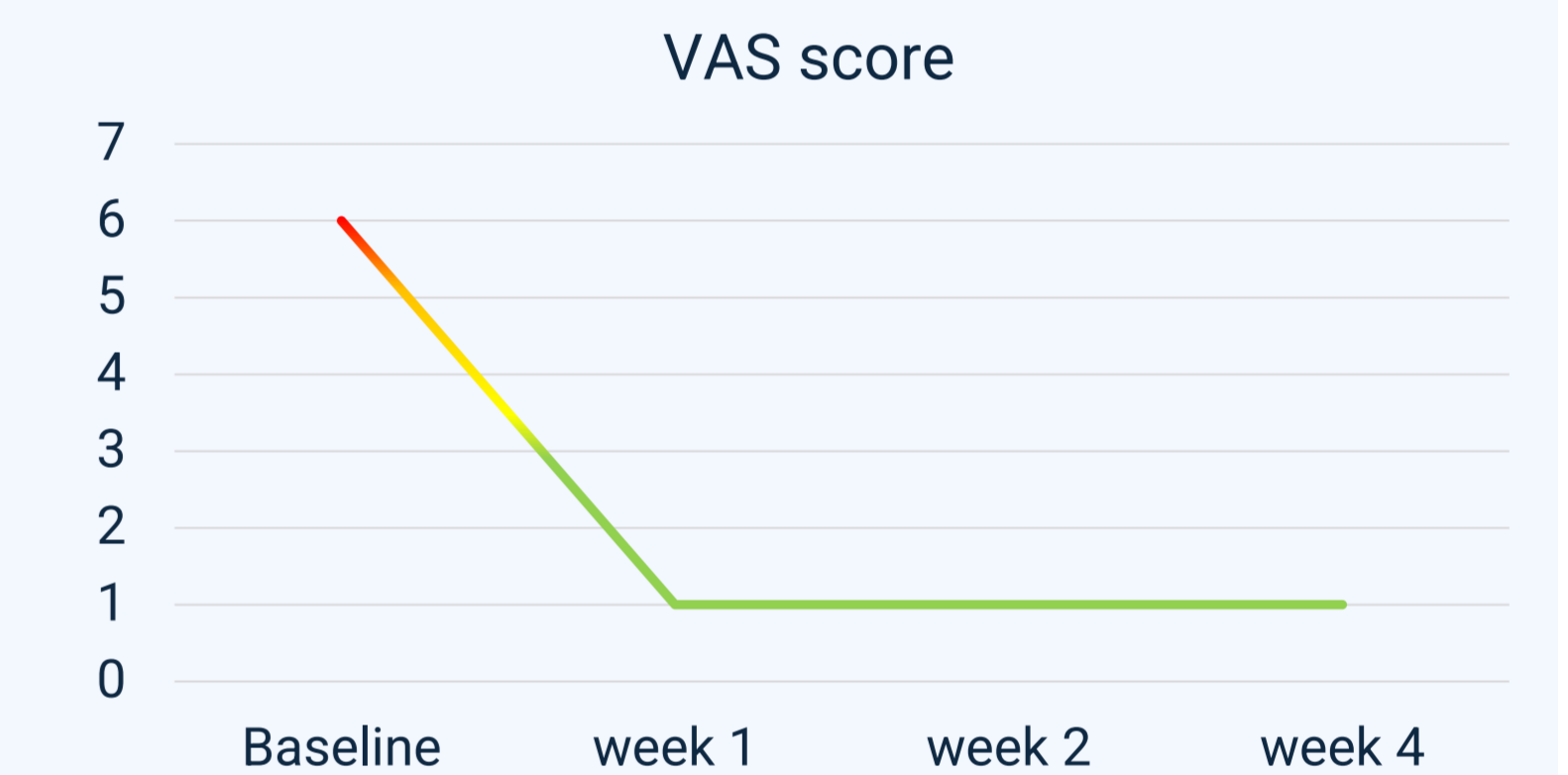
Week 1

Pain score greatly reduced VAS 1
Wound size L 6.5cm width 4cm, depth 0.1cm, area 26cm².
80% sloughy, 10% granulation, 10% epithelial tissue.
High exudate. Showing clinical signs of infection.



Week 4

Pain score VAS 1
Wound size L 5.9cm width 3.1cm, depth 0cm, area 18.29cm².
80% granulation, 20% epithelial tissue. Moderate exudate.
Clinical signs of infection further reduced.



Conclusion

The findings suggest that treatment of the wound with PHMB foam dressings can be effective in reducing wound-related pain. The combination of rapid antimicrobial action, reducing bacterial load, decreasing infection and so reducing the inflammatory stimulus to the nervous system, can result in a reduction in pain. This combined with exudate management, and atraumatic removal may address some factors contributing to wound pain.

PHMB foam wound dressings not only address the clinical challenge of infection and wound pain, improving patient comfort, and supporting wound progression but can also contribute to improved patient quality of life. These dressings can support holistic wound care that prioritises both healing and the person's overall well-being.

The author acknowledges that although this data was part of a large study (185 patients), to examine pain reduction further larger controlled studies are required to validate these outcomes. However this case series highlights the potential role of PHMB foam as an alternative to other antimicrobial foam dressings.