

POLYMERIC MEMBRANE DRESSING* AS AN INTERFACE LAYER REDUCES WOUND PAIN



Geert Vanwalleghem CNS, Wound Care and Pressure Ulcer prevention
H. -Hartziekenhuis Roeselare-Menens vzw, Belgium

INTRODUCTION

Negative pressure wound therapy (NPWT) is an effective method to control large amounts of exudate whilst promoting debridement. The downside is that some patients find it too painful to be acceptable. Additionally, anesthesia and/or sedation are often required prior to dressing changes.

Our patient was admitted to hospital due to trauma that led to a deep, painful, soft tissue injury on the inner leg by the knee. This area became infected and necrotic and needed to be surgically excised. We now had a large, very painful, exuding wound on a mobile patient.

AIM

To find a solution that could cope with copious wound fluid, debride the wound and reduce the excruciating constant pain the patient was experiencing.

METHOD

Surgical debridement was performed under anesthesia in the operating theatre. The patient's pain level prevented us from using NPWT; she did not find it acceptable to be anesthetized several times a week for dressing changes. Polymeric membrane dressings* were chosen due to their ability to continuously cleanse and debride whilst reducing inflammation and pain. The wound became less painful and started to look cleaner at the first dressing change. However, due to the patient's mobility combined with the location of the wound, it was difficult to keep the dressings in place and the wound was still painful when handled. We needed to change the dressings every day.

After a week we tried using polymeric membrane dressings as an interface layer between the wound bed and NPWT. This worked out very well as she did not experience any pain during the treatment and we didn't need to anesthetize her prior to dressing changes since the polymeric membrane dressing prevented the NPWT foam from adhering to the wound surface. We changed the NPWT system and polymeric membrane dressing 1-2 times a week at the clinic.

RESULTS

Dressing changes were easy and pain free without any adhesion to the wound surface. New granulation tissue formed rapidly and a split skin-graft was performed 10 days later.

DISCUSSION

NPWT alone would not have been an option for this patient; her pain was too severe. Polymeric membrane dressings alone would also have given us a clean graftable wound surface, but with more frequent dressing changes involved. By combining the two treatments we could save the patient from frequent dressing changes and unnecessary pain while achieving rapid wound progression to closure. The combination also allowed us to perform the dressing changes at the ambulatory clinic instead of in the operating theater. We haven't estimated financial savings of not having to do anesthetic and not do dressing changes in operating theatre, but it is clear that financial savings are very significant.



14 September

After the surgical debridement, vaseline gauze dressings were used on the wound. These dressings stuck to the wound surface and caused the patient a lot of pain both during wear-time and at dressing changes. We decided to try polymeric membrane dressings instead. Since these dressings have pain-relieving and cleansing properties we hoped to make the dressing changes less traumatic for the patient.



20 September

The polymeric membrane dressings helped reduce the pain during wear time but the actual dressing changes were still a little painful. We also had a problem keeping the dressings in place due to the patient's mobility and the wound's location by the knee joint. In spite of the difficulty in keeping the dressings in place, we wanted to continue with the polymeric membrane dressings as they helped debride the wound surface effectively. However, we needed to change the dressings every day due to the high exudate levels and the patient experienced pain whenever the wound surface was exposed so we decided to try a new dressing combination.



We applied the cavity version of the polymeric membrane dressings onto the wound surface, covered them with the regular foam used with NPWT and activated the NPWT system. This way we hoped that daily dressing changes could be avoided and the positive effect of reduced pain during wear time could be maintained.



23 September

This combination worked very well. When we changed the dressings three days later at the out-patient clinic, the patient reported that she had not experienced



any pain during the treatment. The dressings were very easy to remove as there was no tissue ingrowth into the polymeric membrane cavity filler interface, as is common with the NPWT foam and therefore, no anesthesia was needed.



4 vs. 20 October

We have continued to change the dressings every 3-4 days and both the patient and clinician have been impressed; - the patient by the comfort of the dressing; and the clinician over the



ease of handling. The entire process from debridement to healing of this large tissue injury has only taken one month.

Bibliography

Beitz AJ, Newman A, Kahn AR, Ruggles T, Eikmeier L. A polymeric membrane dressing with antinociceptive properties: analysis with a rodent model of stab wound secondary hyperalgesia. J Pain. 2004 Feb;5(1):38-47.

*PolyMem® WIC Cavity Wound dressing
Manufactured by Ferris Mfg Corp, Burr Ridge, IL 60527 USA. This case study was unsponsored.