The Management of Paediatric Epidermolysis Bullosa Lesions with Polymeric Membrane Dressings

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INTRODUCTION
This case study evaluates the use of Polymeric membrane dressings for children with Epidermolysis Bullosa (EB). EB is defined as a rare group of inherited skin disorders, involving blistering of the skin and occasionally mucous membranes, due to missing proteins in the skin. Recurrent blisters, skin fragility and painful chronic wounds typify this disease. There are four main types of EB with many sub-types. Management of these wounds requires a non-adhesive and non-adherent dressing to reduce trauma, pain and bleeding on removal.

Based on recommendations from DebRA UK (Dystrophic Epidermolysis Bullosa Research Association), Polymeric membrane dressings have recently been used successfully in treating EB wounds overseas. Patients with EB are often reluctant to bath due to pain and discomfort, so a non-adherent dressing which contains a cleanser is a positive move forward in the development of dressings. Polymeric membrane dressings contain glycerin which is reported to reduce odour and overgranulation. It further acts as a moisturizer which helps prevent adhesion to the wound bed and the fragile surrounding skin. The dressing has a semi-permeable thin film backing which provides a barrier to fluids and microorganisms, and is highly absorbent due to the superabsorbent starch co-polymer. These dressings are also available impregnated with silver, which is a valuable option for this group of patients, whose wounds are often infected or critically colonised.

Patient A
Patient A is a seven year old boy. He has Recessive Dystrophic EB and his most challenging wounds are on his back. These wounds have been present for five years and were gradually increasing in size. A common factor with many patients around the world is a reluctance to bath. Bathing for these young children can be traumatic, even when pain relief is given, because anticipatory pain is related to procedural pain in patients with chronic wounds. Full dressing changes occurred 3 times a week with bathing, however his back was sometimes changed every second day due to the wound size and volume of exudate.

For the purpose of this study the wounds were split into left and right. On the left side Polymeric membrane dressing treatment was commenced. A single sheet of the dressing was secured around his torso with a crepe bandage. The right side was used as a control, and his usual regime of a primary and a secondary dressing continued.

After 4 weeks of treatment with Polymeric membrane dressings a marked decrease in the left wound size to 122cm² was noted, a difference of 14cm². After 8 weeks the wound measured 62cm² and was also hypergranulated and beefy.

Patient B
Patient B has Non-Herlitz Junctional EB. He is two years old and has chronic wounds on his face, legs and arms. His bath and dressing change regime was 3 times a week, using a primary and secondary dressing, secured with a tube dressing. This regime was necessary but gave the child and family a very irregular lifestyle.

His mother had recently noticed itching and a rash on his skin, underneath his dressings. A possible sensitivity to silicone had developed. His mother therefore ceased his usual dressings and began using solely Polymeric membrane dressings secured with the tube dressings.

After 8 weeks there was marked contraction of the left wound and it had reduced in size to 53cm². A total reduction of 43cm² in 8 weeks. The edge of the wound was flatter and the surrounding skin was also noted to be healthier in appearance. The control wound measured 65cm² reducing only by 6cm². This wound remained hypergranulated and beefy.

The mother & patient reported:
- Faster healing of blistered areas
- No itching of surrounding skin
- No trauma: Non-adherent
- Excellent management of exudate
- No change in pain management
- Baths and dressing changes reduced to twice a week giving the child and the family increased quality of life with a dressings-free weekend and a more regular routine.

The use of Polymeric membrane dressings in this small case study resulted in a reduction of wound size with improvement to the surrounding tissue. The dressing was comfortable, quick and easy to use, non-adherent and able to manage large amounts of exudate. This case study supports the larger case study carried out by DebRA UK which included adult and paediatric patients. As in this study, DebRA UK also showed that along with many other benefits, Polymeric membrane dressings can help reduce the size of chronic wounds which have remained unchanged for many years.

RECOMMENDATIONS
This small study has demonstrated that the Polymeric membrane dressing is an effective treatment option for both Recessive Dystrophic and Non-Herlitz Junctional EB paediatric wounds. Further work will be needed to determine longer term outcomes. However, the factors discussed indicate that Polymeric membrane dressings would be a valuable addition to the EB dressings choice.

*PolyMem® and PolyMem® Silver Wound Dressings
Manufactured by Ferris Mfg Corp, Burr Ridge, IL 60527 USA. This case study was unsponsored. Ferris Mfg. Corp. contributed to this poster design and presentation.

References

Fig 1 shows the rash. After 3 days use of Polymeric membrane dressings the rash had resolved (Fig 2). When his mother had no dressings remaining and restarted the previous dressing regime, the rash returned. Since accessing a regular supply of Polymeric membrane dressings the patient’s rash has not returned.

Fig 2 shows the left leg wound before Polymeric membrane dressings were implemented. 1 week later the wound has dried and shows rapid healing (Fig 4).

Fig 3 demonstrates wounds on his right leg prior to Polymeric membrane dressing treatment. 1 week later (Fig 5) one wound has healed and the others show definite signs of contraction with no maceration of the surrounding skin.

Fig 4

The mother reported:
- Faster healing of blistered areas
- Cleaner wounds and improved healing of wounds.
- Excellent management of exudate
- No itching of surrounding skin
- No trauma: Non-adherent
- Ease and speed of application
- No change in pain management
- Baths and dressing changes reduced to twice a week giving the child and the family increased quality of life with a dressings-free weekend and a more regular routine.

Fig 5

Discussion
The aim of this case study was to assess the efficacy of Polymeric membrane dressings in two patients with EB. This included ease of application and removal, control of exudate, rate of healing and any change in pain management. The findings suggest that the Polymeric membrane dressing is an effective dressing for the treatment of EB wounds, demonstrating pain free,atraumatic dressing removal and improved healing, resulting in a cleaner wound.

METHOD
Two children with Epidermolysis Bullosa (EB) were selected for this case study.

Patient A (Recessive Dystrophic EB) has chronic wounds all over his body, but the wound selected to be treated with Polymeric membrane dressings was a large, painful, chronic wound on his back. Base line measurements and clinical photographs were taken by Clinical Nurse Consultant over an 8-week period. The wound was outlined in permanent marker on cling wrap and traced onto a chart for accurate measurement.

Patient B (Non-Herlitz, Junctional EB) has chronic wounds on his arms and legs. Only photographs, no measurements, were taken of this patient due to time and distance constraints. Multiple limb wounds, treated with the Polymeric membrane dressings were documented.