

Investigating the use of Polymeric Membrane Dressings* on Recalcitrant Wounds in Epidermolysis Bullosa (EB)

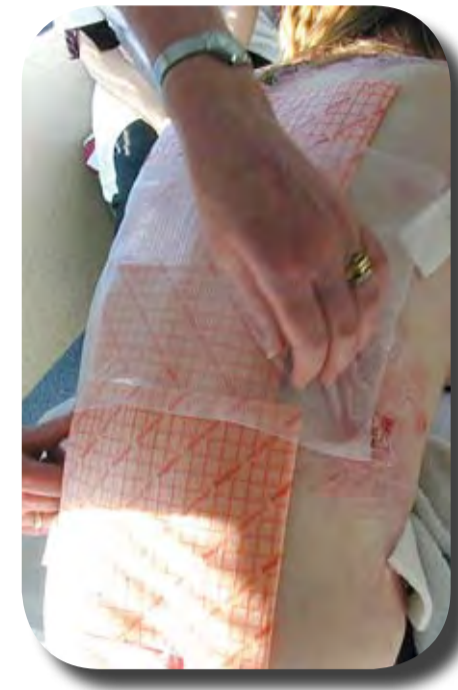


Elizabeth Pillay, EB Nurse Consultant (adults)
St Thomas's Hospital and DeBRA UK
Liz.pillay@debra.org.uk

INTRODUCTION

EB is an umbrella term for a group of rare genetic skin fragility disorders in which structural proteins vital to the stability of the skin are either absent or defective. The cardinal symptoms are blistering and skin loss in response to mild trauma.

Patients with the severe forms of EB will spend a life-time with 25-75% of their body surface area covered in wound dressings. Wounds and their care are a constant throughout these patients' lives, not a discrete episode. Patients and their carers (often family members) rapidly become experts in wound management, delivering care in the domiciliary setting and frequently determining what products are used¹. UK figures show 206 EB patients use dressings costing circa £1.8 million annually, with a sub-group of 77 most severely affected individuals having dressings spend of in excess of £500 /month².



Aim

A polymeric membrane dressing (PMD)* has proven to be very successful in healing recalcitrant wounds in EB. This small study of 20 patients and carers using the dressing looked at not only healing rates, but also, a more 'global' report is made here in recognition that "alternative endpoints"³ are particularly pertinent in the field of EB wound management. Of the 20 patients, 15 patients returned the questionnaires.

This small evaluation is an attempt to bridge the gap between professional knowledge and patient and carer experience. The data captured allows health care professionals to be more fully informed about the qualities of the dressing in use and thus tailor future practise and patient information. Alongside this was the opportunity to inform the dressing's manufacturer about the specific needs of the EB population when using the PMD and potentially improve the dressing design.

METHOD

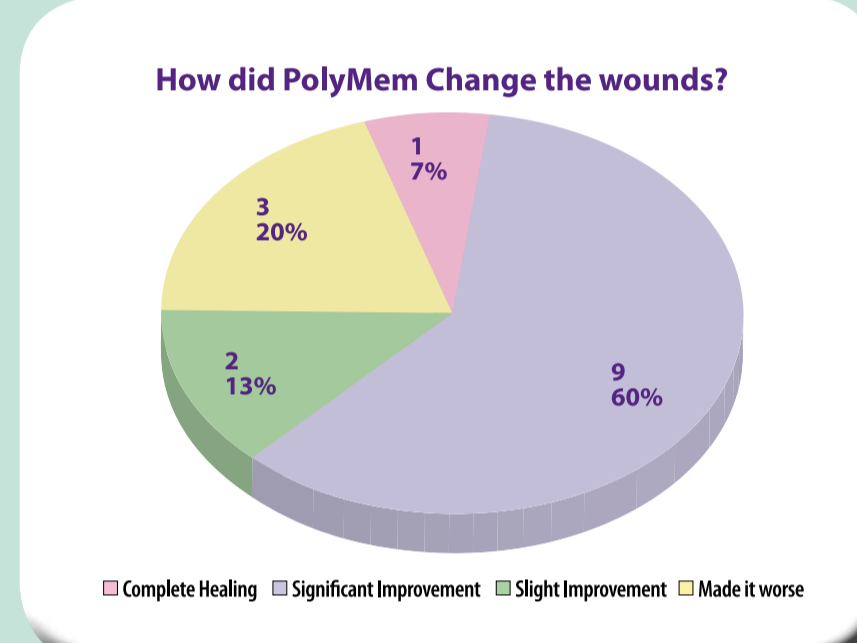
A questionnaire was designed with patient and carer input. Alongside objective measures such as healing achieved, patients were asked to score previously identified troublesome wound symptoms such as pain, odour and exudate management. The questionnaire then allowed the patients to express how well (or otherwise) the dressing had managed these symptoms.

14 of the patients involved in the evaluation had a diagnosis of Severe Generalised Recessive Dystrophic EB, with the remaining patient having Non-Herlitz Junctional EB. Ages ranged from 8 to 54 years and the initial target wounds ranged in chronicity from 3 months to in excess of 15 years. However after initial improvements in healing many patients began to use the PMD (both the regular and the silver version) on a wide variety of wounds and this is reflected in the answers given.

Results from wound related data

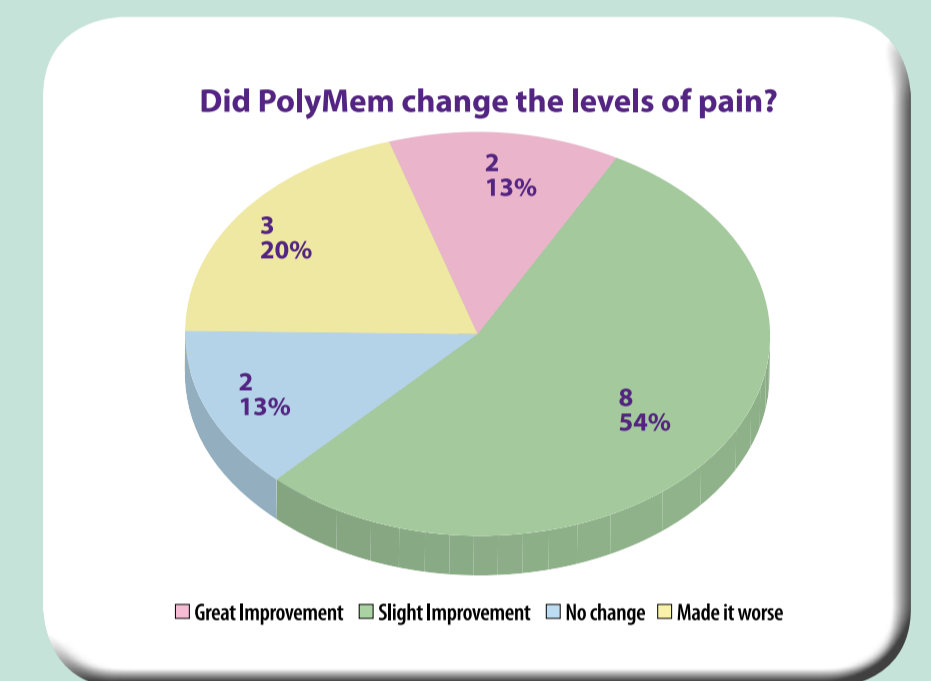
15 out of 20 questionnaires were returned. 12 out of 15 patients reported a positive change in the wound whilst using the PMD with 14 out of the 15 patients commenting that the wound appeared cleaner whilst using the dressing. The average time for the patients to notice a substantial improvement was 3 weeks, with 5 patients noticing a visible improvement within 7 days. In 3 patients the wound deteriorated in the first week due to poor control of the initial increase in exudate, which resulted in maceration and wound extension.

It is important to note that 6 of the wounds that greatly improved with the PMD were between 5-15 years old. In addition to these chronic wounds, these patients suffer from anaemia, malnutrition, intense pruritus, infection, pain, and abnormal healing as a result of the underlying abnormality. Individuals with severe EB live a life-time with at least one chronic wound unresponsive to any intervention.



Pain

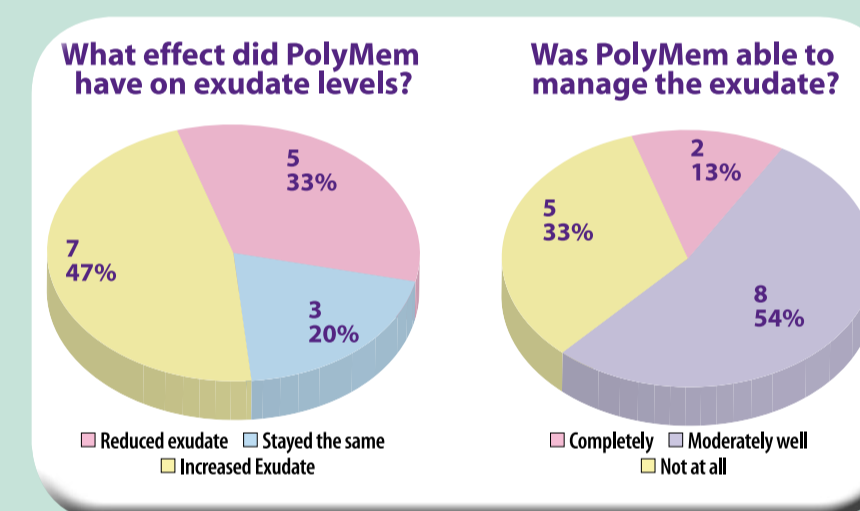
In severe EB there is always a certain level of pain, both constant and procedural pain. EB patients vary widely in their requirements for analgesia from the occasional NSAID to opiates. In 4 patients the pain was completely resolved or greatly improved, 8 had a slight improvement and 3 had an increase of pain. In 2 of these patients this was related to poorly controlled exudate and maceration of the peri-wound skin with subsequent wound extension. In the 3rd patient there was a particularly severe escalation in pain related solely to the dressings use. However the patient observed such an improvement in the wound whilst using the PMD that he was prepared to continue its use and he subsequently went on to heal completely.



Exudate and its management

Part of the action of the PMD is to initially increase exudate levels. However not all patients experienced an increase in exudate levels with 8 having either reduced or static levels. In the remaining 7 there was an increase.

In 10 of the patients the dressing was able to manage the exudate at least moderately well; however in 5 patients the absorbency was insufficient despite at least daily dressing change. This was a major factor in the success or otherwise of the dressing and the fact that the more absorbent form of the PMD is only available in an 11x11cm size was a cause of dissatisfaction amongst the whole patient group. All patients using the PMD are now informed of the likelihood of initial increase in exudate levels and protection of the peri-wound skin with a barrier product is recommended alongside increased frequency of dressing change at least initially.

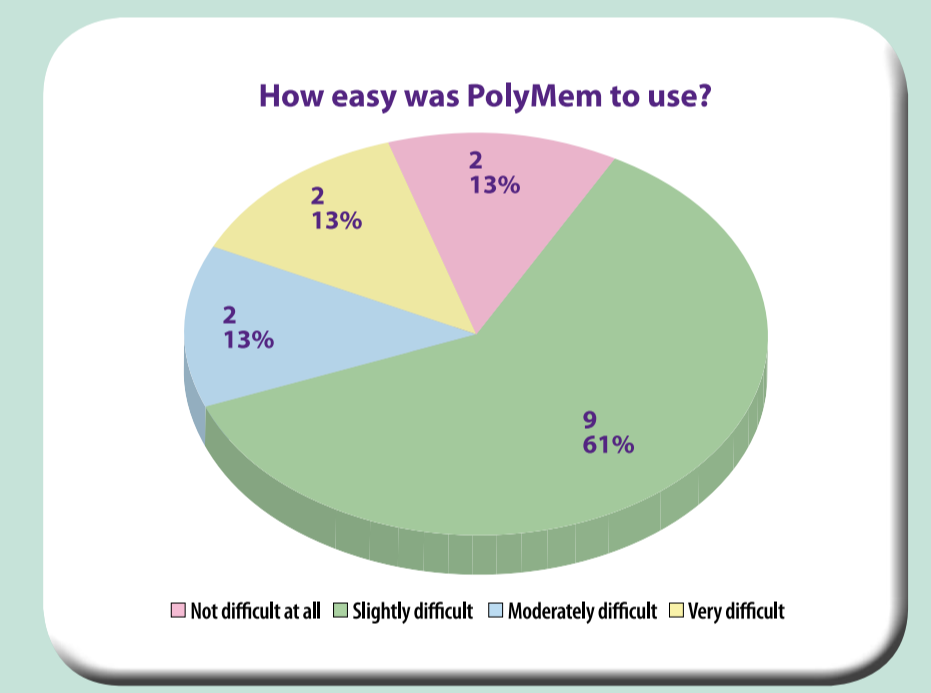


Dressing Handling

The factors which will influence an EB patient's decision to use a dressing often centre around ease of use, ability to stay in place and crucially, given the skin fragility, how little damage it causes both in use and on removal.

All the 12 patients whose wounds improved and 1 from the other group requested larger sizes of the dressing and that some level of adherence, such as that found on soft silicone products be applied to the surface of the dressing to aid application and retention. Other comments related to the difficulty in opening the packaging.

However despite some level of difficulty in using the product for 13 out of the 15 patients, 12 patients would use the product again and the same number would recommend its use to other patients.



14 year old male with RDEB. The left knee has been open for 5 years with frequent infection together with the patients' reluctance to use topical antiseptics or antimicrobial dressings. Previous dressings include soft silicone, honey and silver dressings.

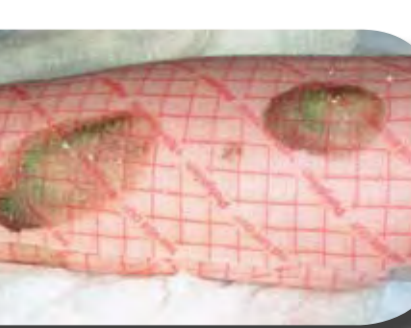
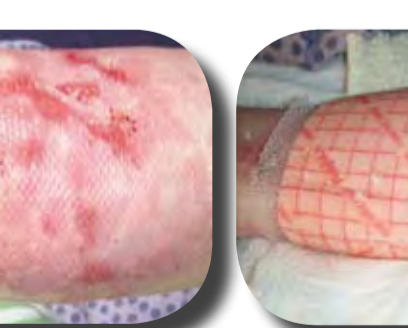
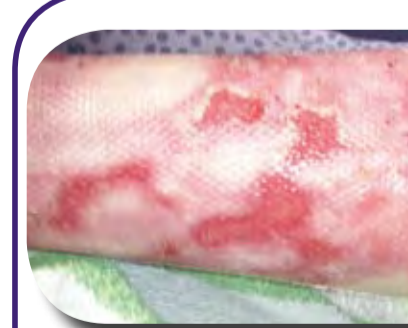
PMD Silver was applied for 3 months followed by regular PMD. Healing achieved in 6 months.



20 year old female with severe RDEB. The wound has been open for 7 years. Usually a clean and healthy looking wound bed. Previous wound management includes soft silicone, honey and silver dressings as well as topical anti-microbials. Improvement was noted within a week after application of PMD. The wound surface has reduced approximately by 50% within 6 months. Slow improvement continues.



43 year old female with severe RDEB. Wound on inner malleolus right ankle with 4 months duration. The patient was undergoing repeated surgeries for active malignancy. Oedema of lower limbs together with extreme fragility and dryness of peri-wound skin. Previous treatments include soft silicones and protease modulator, non-concordant. PMD extra absorbent was needed due to the initial amount of exudate. Healing was achieved in 4 ½ months.



23 year old female with RDEB. Both legs are prone to skin breakdown primarily as a result of pruritus. She has always been reluctant to try new products. Previous dressings include soft silicones, polyurethane foams and silver dressings. PMD applied with improvement in 2 days and almost complete healing in 1 week.

DISCUSSION

These evaluations of the PMD in use showed a reduction of wound size and in some complete healing.

The majority of these recalcitrant wounds had been impervious to best wound care practise and previous therapies. Overcoming problems with exudate management appears to be key to the success of the PMD and this was clearly the major factor where the dressing 'failed'. It is of great interest that a deceptively simple dressing can achieve these results, and this deserves further exploration. The factors which will influence an EB patient's decision to use a dressing are not based solely on whether or not the product will provide the correct healing environment for the wound, but often centre around ease of use, ability to stay in place and prevention of further damage to the fragile skin. Whilst healthcare professionals are involved in this decision making process, both informing and educating patients and carers about wound management and potentially suitable products, the ability to 'capture' and use the patient and carer experience in a way which is other than anecdotal, gives invaluable information to optimise the potential of any wound management strategy.

References and Bibliography

1. Pillay E, Br J Nursing. Epidermolysis bullosa: causes, presentations and complications. March 2008 13-26: 17(5)
2. Bullens Personal Communication Feb 09
3. Enoch S, Price P. Should alternative endpoints be considered to evaluate outcomes in chronic recalcitrant wounds?

- 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.
- Abercrombie EM, Mather CA, Hon J, Graham-King P, Pillay E Abercrombie et al. Care of the adult patient with recessive dystrophic EB Br J Nurs. 2008 Mar 27-Apr 9; 17(6):

Special thanks to J Clapham, J Denyer & E Abercrombie for your support and for sharing your photographs.

*PolyMem® and PolyMem® MAX Wound dressings (with and without silver). 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.