

Efficiency and Safety of using a Polymeric Membrane Wound Dressing in Patients with Epidermolysis Bullosa after a Release Operation

Bauer J. MD, FEBPS, interimistic head of the Department of Pediatric Surgery.¹ Diem A. MD.² Ploder M. MD.¹

¹Department of Pediatric Surgery, General Hospital Salzburg, Paracelsus Medical University Salzburg, Austria

²EB House Austria, Department of Dermatology, General Hospital Salzburg, Paracelsus Medical University Salzburg, Austria

INTRODUCTION

Epidermolysis bullosa (EB) is a group of rare inherited bullous disorders with blister formation and breakdown of the skin and mucosa. Those recurring traumas can lead to internal and external scarring. One of many possible complications is severe hand deformities caused by the recurrent scarring and fusion of fingers leading to contractures, loss of function and deformities such as clenched fists. This condition is called pseudosyndactyly and is most common in the dystrophic form of EB. It usually starts during the first year of life, 70% suffer from the condition by the time they are 5 years old. Early physical therapy, finger wrapping and splinting can delay the onset. This condition can only be resolved by surgically releasing the fingers. The main goal of the surgery is to obtain the "pincette grasp" and for certain age groups the possibility to use a keyboard.

In the past 10 years a total of 12 patients have had a release operation in our department. Some of them needed more than one operation leading to a total of 18 operations.

A large problem following surgery in this compromised group of patients can be wound healing. After a couple of failed results with skin grafts we have used a large variety of different dressings and wound contact layers following a release operation of the hand with varying results.

AIM

2011 we started to use polymeric membrane dressings (PMDs)* in combination with silver sulfadiazine creme with very promising results.

The aim of this study was to compare the outcome of patients after a release operation of the hand treated with PMDs and compare them with our previous patients as a control group.

METHOD

We included all 12 patients who had been treated with a release operation at our department in the past 10 years.

4 patients were in the PMD group compared to 8 patients in the control group. Mean age was similar in both groups; PMD group 11.25 ± 5.3 and control group 11.14 ± 5.1

We created a glove by sewing or stapeling PMD finger dressings with regular sheets of PMDs. The tips if the finger dressings were cut off and the gloves were lined with silver sulphadiazene cream. Dressing changes every 4-5 days in general anaesthesia. Between day 7 and 10 the hands were splinted. No anaesthesia needed after 10-14 days.

RESULTS

We stopped using anaesthesia at dressing change 2 weeks after surgery in the PMD group. In the control group we stopped after 3 weeks.

Dressing changes were faster for the group using PMDs, it took between 15-20 minutes per hand. The control group needed 10 minutes longer time per hand.

Postoperative complications (bleeding, superinfection) occurred five times and only in the control group, none in the PMD group.

CONCLUSION

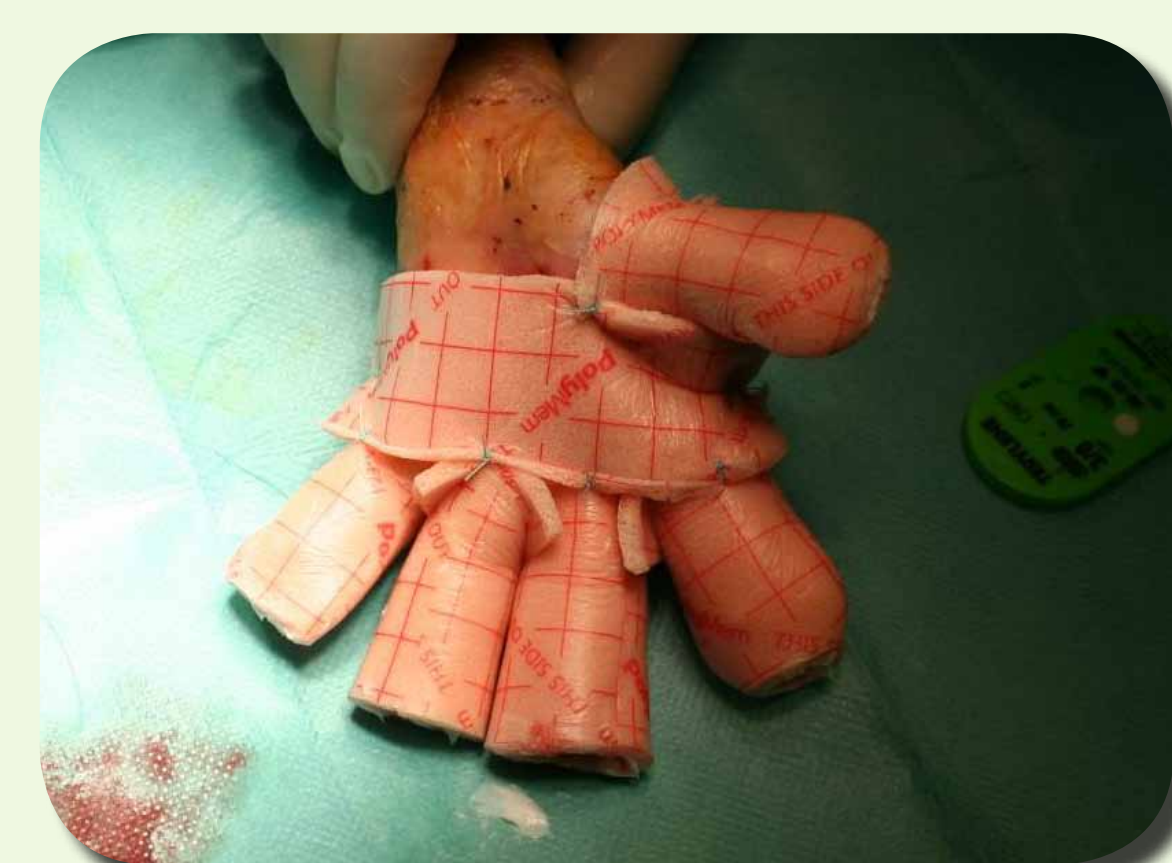
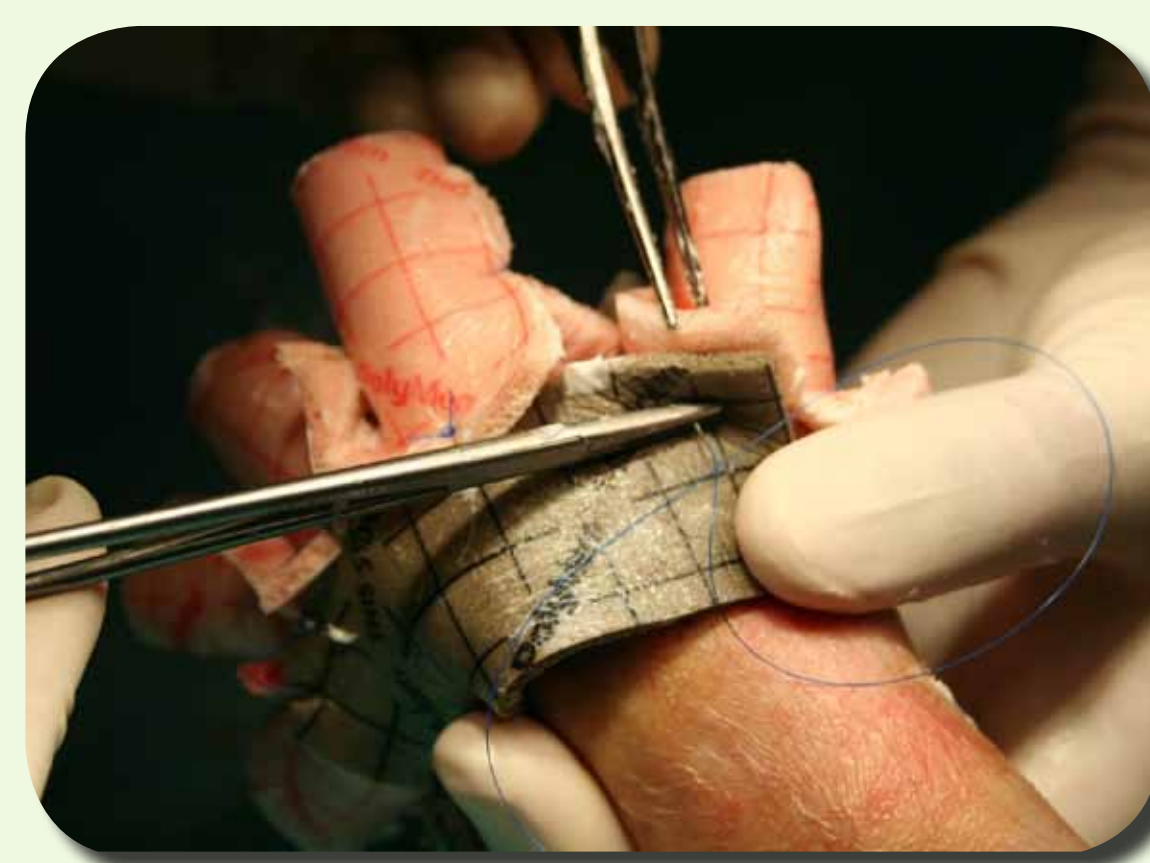
We have found that it is perfectly safe to use polymeric membrane dressings after a release operation in patients with severe EB; it is easier to apply, patients find it comfortable and are therefore very compliant and it leads to faster wound healing. Nevertheless further studies are needed to obtain more significant results. In the meantime we continue to use PMDs on our patients.



Pseudosyndactyly. Photo clearly shows the scarring and contractures.



Release operation; separation of the thumb and fingers.



We staple or sew the PMD finger dressings to flat sheets of PMD. There is usually no need to use the silver version, as we line the gloves with silver sulphadiazine creme. Note the tips of the fingers are cut to prevent the hand from becoming too hot and moist, which can lead to maceration.



The dressings are always changed every 3-4 days due to risk of infection. This image shows a hand 12 days post surgery after a total of 4 dressing applications. The hands are ready for splinting.



Splinting is important in order to keep the fingers straight and prevent contraction. Once we are at this stage the patient no longer needs to be anesthetized during the dressing changes.



Result 6 weeks post surgery. The hand is functioning well and is fully healed.