

Polymeric Membrane Dressings* give Pain Relief and Wound Closure of Hard to Heal Wounds on Thalassemia Patients

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INTRODUCTION

Thalassemia is a genetic disorder that involves decreased and defective production of globin chains found in hemoglobin leading to chronic hemolytic anemia. Thalassemias differ in severity and in the type of globin chain that is deficient.

Thalassemias are among the most common genetic disorders in humans; they are encountered among all ethnic groups and in almost every country around the world. There are two main types of thalassemia, each type has many different subtypes.

- Alpha thalassemia occurs when a gene or genes related to the alpha globin protein are missing or changed (mutated).
- β thalassemia occurs when similar gene defects affect production of the beta globin protein. (β thalassemia major is also called Cooley's anemia).

A person with β thalassemia major, in which both genes are affected, develops severe anemia starting at a few months of age. They may require frequent or only occasional blood transfusions, depending on the severity of the condition. Another danger for people with β thalassemia is an iron overload from the gradual breakdown of the transfused blood.

Bleeding tendency, increased susceptibility to infection, and organ dysfunction are all associated with iron overload. Some patients may require splenectomy. Morbidity is usually related to the anemia, complications of blood transfusions, massive splenomegaly in some patients, or the complications of splenectomy in others.

A screening policy exists in Cyprus since the 1970s and the incidence of this genetic disease has reduced to from 1 out of every 158 births to almost zero. Today a majority of the patients are over 25 years-old.

The skin at the extremities of elderly thalassemia patients can be thin due to reduced tissue oxygenation, and this makes the subcutaneous tissue fragile and increases the risk of lesions from minimal trauma. Once an ulcer has started to develop, it is very painful and difficult to cure.

Aim

To evaluate the use of polymeric membrane dressings* on the hard to heal wounds on patients with Thalassemia. We looked at reduction of pain and ability to promote wound healing.

Case 1

32 year old male with thalassemia, wound duration 4 years. A large variety of treatments including skin grafts and modern wound care dressings have been used in the past with no success. When he came to me the area surrounding the wound had not been cleaned for a long time and was covered by a specific essential oil that these patients like to use together with vaselin gauze. He had a constant pain level of 9 out of 10.



The surrounding skin needed careful debridement to get rid of residues from previous dressings. Polymeric membrane dressing applied.



In spite of a dramatic improvement in pain and wound status when using polymeric membrane dressings the patient went back to his previous treatment.



Since there has been no improvement in 4,5 months I managed to convince the patient to start using polymeric membrane dressings again.

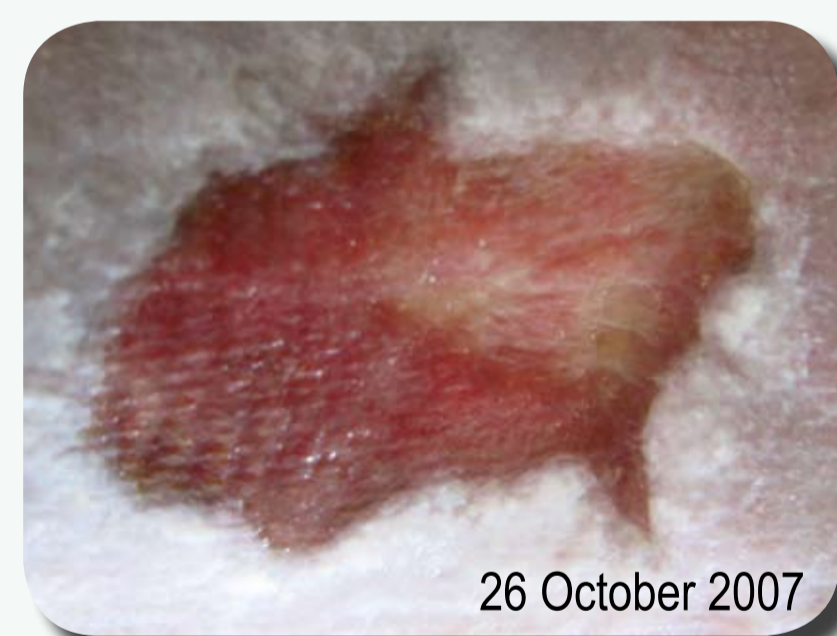


The wound finally closed after 4 months. This is the first time in over 4 years that the patient is wound free. He was happy I talked him into changing the treatment.



Case 2

A 35 year old man with thalassemia developed a two leg ulcers 5 years ago due to circulatory problems (only one of them is shown here). Various treatments were tried with no success including skin grafts. Previous treatments included essential oils, iodine, zinc, honey and hydrogels.



The wound and surrounding skin was macerated. Initial cleansing prior to first polymeric membrane dressing application.



In less than a week healthy granulation tissue was observed. The patient reported a reduction in pain and was willing to continue to change the dressings himself.



The wound continues to improve. Dressing changes are only needed every second day. Cleansing between dressing changes not needed.



The 5 year old wound is completely healed 4 months treatment with polymeric membrane dressings.

Case 3

A young 36 years old male, has had this wound for over five years. Three years ago an attempt was made to close it with a skin graft but the wound re-opened in less than a year. He has blood transfusion every two weeks but his Haemoglobin level rarely exceeds 95 g/L.



His pain level has been a constant 10 out of 10 and this has prevented him from working. We cleaned the wound prior to the first application of polymeric membrane dressings. At the follow-up visit one week later he told us that he was now ready to get back to work as he no longer experienced any pain.



The wound is cleaning up nicely. The patient can now perform the dressing changes by himself at home and only comes to us for follow-up photos.



Smooth progress until complete closure 2,5 months later. The patient still remembers the pain he used to experience and has been very appreciative over this dressing. Follow-up 1 year later shows that the wound is still closed.

METHOD

The three men presented here have a common background. They are all in their mid-30's with wounds due to Thalassemia. All of them undergo regular blood transfusions every two weeks to maintain and Hb over 90g/L. All three have undergone a splenectomy due to transfusion related complications and they all have implanted Port-A-Caths for their daily intravenous chelation therapy, which is crucial for removal of the iron deposits after long-term blood transfusions. They are, unfortunately, also all non-compliant when it comes to this therapy which means that their tissue perfusion is compromised due to their elevated tissue iron levels.

Due to their fragile skin most Thalassemia patients with wounds are used to applying a specific herbal ointment covered with gauze on the skin surrounding the wound. Initially most of these patients wanted to continue with that regime together with polymeric membrane dressings over their wounds, however, as time progressed we managed to convince them to use the polymeric membrane dressings directly on their wounds and surrounding skin. Once they did that we noted a faster progression of wound healing.

After the initial period when the dressings needed to be changed more frequently due to increased exudate level, the patients were trained to change most of their dressings themselves.

*PolyMem® 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.

RESULTS

All had previously used a variety of different modern wound dressings and even skin transplants without managing to close the wounds.

Pain scores as high as 9-10 dropped to 2-3 after a couple of dressing changes. One wound closed after 2,5 months, the others after 4 months. Follow-up on one of the patients shows that his wounds have stayed closed for 2 years.

DISCUSSION

This is a difficult group of patients to treat due to their genetic disease. Wound healing is slow, often without expectation of healing. It is exciting for us to have found a successful treatment that also has an effect on dramatically diminishing their pain. Today we use polymeric membrane dressings as a standard treatment for all our patients with Thalassemia.