

AN EASY, EFFECTIVE AND ALMOST PAINLESS WAY TO DEBRIDE AND HEAL ARTERIAL ULCERS



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INTRODUCTION

Ulcers caused by reduced arterial perfusion are often covered with slough and/or necrotic tissue and can be challenging to treat due to the excruciating pain often associated with these types of ulcers. Many of these patients are not candidates for surgical intervention due to age or concomitant disease.

For the past 5 years we have treated these types of ulcers with polymeric membrane dressings* due to their pain relieving effect and debriding properties. We use these dressings for most types of wounds treated in the home setting as it is very easy to educate the family, who are often the carers, how to manage the wounds themselves.

The past 5 years we have treated 26 patients with arterial ulcers. Of these, 5 were candidates for bypass surgery, 3 needed amputation and 4 passed away. The patients that had undergone surgery continued to use polymeric membrane dressings after the surgical intervention.

AIM

To share our clinical experience of debriding, treating and healing arterial ulcers in the home care setting.

METHOD

26 patients were treated during this period. Their age ranged from 65-95 years old. The initial assessment was done at our wound center and the actual treatment was performed at home by the patients' relatives and/or carers. All patients and family/carers were educated by the community nurses on how to manage their wounds with polymeric membrane dressings. They were taught to change the dressings when they could observe that the wound fluid reached the wound margins (visible from on top of the dressing). Since no debridement or cleansing was needed during dressing changes it was easy for them to perform without any medical background. Whenever needed, home visits were made by our nurses.

RESULTS

Of the 26 patients, 4 passed away, 3 ended up with an amputation, 3 were lost to follow-up and 5 dropped out due to various reasons. In the remaining 11 patients (this includes the 5 that needed a bypass) the pain level dropped to an "acceptable" level of 4 or under after 2 weeks treatment with polymeric membrane dressings. The healing time ranged between 4 to 6 months. No significant difference in healing rate between those who had undergone bypass and those who didn't but we have to bear in mind that wound care is done at home by the family.

DISCUSSION

Our patients are often too old or have too many concomitant diseases to be candidates for surgical intervention. Arterial ulcers cause considerable pain and decrease their quality of life. By using a simple effective treatment that even the family members can perform we have in most cases been able to heal their wounds in a timely, easy, cost-effective manner.

Case 1

A 75 year old woman with hypertension, hyperlipidemia and diabetes. She suffered from claudication that eventually developed into an excruciatingly painful wound, causing her many sleepless nights. Both legs were shiny and hairless with evidence of muscle wasting as she had stopped walking due to the pain. Doppler showed an ABPI of 0.48, on the leg with the wound, (the other leg measured 0.56). The signals were also monophasic indicating a reduced blood flow and obstruction. She was referred to angio-surgeon for a duplex and angiogram but unfortunately the tests showed that she was not a candidate for surgical intervention.



1) 28 April



2) 7 May



3) 7 May



4) 31 May



5) 2 September

1. Previous treatments included hydrogels and NPWT which she couldn't tolerate due to the intense pain, we had to stop that treatment after 48 hours. Her pain was the reason she refused to undergo any surgical debridement. A bacterial swab showed that she was positive for *Pseudomonas*.
2. We applied a moistened polymeric membrane silver dressing over the ulcer in order to facilitate faster autolytic debridement.
3. The initial increase in exudates that we always see when using polymeric membrane dressings has helped to soften the necrosis and promote autolytic debridement. This method of debridement is slightly slower but causes no pain to the patient.
4. We only used the silver version of polymeric membrane dressings for the first 2 weeks. She was not taking any antibiotics during this period and we did not have any more signs of infection during the entire treatment.
5. It took the wound 4 months to close, but bear in mind that she had a severely compromised perfusion and these types of wounds rarely close without the help of surgical interventions. According to the patient she was pain free the entire time she was using polymeric membrane dressings.

Case 2

This 65 year old woman with a history of diabetes, claudication and a deteriorating foot ulcer was recommended amputation while admitted at a government hospital. She refused and consulted a private hospital that, after extensive examinations, including angiography, performed a femoral peroneal bypass in an attempt to save her leg. However, when the ulcer continued to deteriorate she was referred to my wound clinic by her angio-surgeon.



27 May



4 June



15 September

Previous treatments of the ulcer included iodine baths as well as various modern moist wound healing dressings.

We started to use the silver version of the polymeric membrane dressings with daily changes. After the first few weeks we gradually decreased the change frequency to 3 times a week as the wound became cleaner. We only needed to use the silver version of polymeric membrane dressings the first 10 days.

After 2 months we had a clean wound surface. The wound took 4 months to close.

Case 3

The patient is 75 years old with a 4 month old leg ulcer showing no signs of improvement. Previous medical history includes diabetes, hypercholesterolemia, hypertension, overweight and stroke. The patient complained of severe pain on elevation of the leg and exercise as well as of rest pain. A Doppler ABPI showed a value of 0.48. The signal of the Doppler ultrasound was biphasic indicating that the blood flows at increased velocity which is usually due to stenosis.



12 November



22 December



3 March

Previous wound treatments included iodine soaks, hyaluronic acid and sometimes, just dry gauze. Due to the pain he didn't want anyone to touch his leg and preferred to perform the dressing changes himself. Polymeric membrane dressings were moistened with a few drops of sterile saline prior to application in order to speed up the autolytic debridement. The wound started to look cleaner after the second dressing change. It took about a week for the pain to disappear. The patient often told us how comfortable the dressing felt. The ulcer closed in 4 months without any surgical interventions.

Case 4

88 year old lady living at home with a home carer. Past medical history; hypertension, osteoporosis, rheumatoid arthritis, anemia, hyperlipidaemia, and a recent stroke. Her previous arterial ulcers have taken several years to heal. Her new ulcer developed after she became immobilised after a stroke. She was seen by her angio-surgeon who referred her to our wound clinic for treatment as she was not a candidate for angioplasty or bypass.



13 February



6 March



22 December

The ulcer was very painful, 10 out of 10 according to VAS. The necrosis covering the wound thick and hard. Daily dressing changes the first couple of weeks.

Polymeric membrane dressings were moistened prior to application in order to soften the necrotic tissue and encourage autolysis. The initial increase in exudates has helped to soften the necrosis and promote the autolytic debridement.

The pain within the first week was 7 out of 10 and gradually reduced to 0 after 2,5 weeks. It finally took about 13 months for the wound to fully close. The patient performed most dressing changes by herself.