Resolving epibole with polymeric membrane dressings* in home care

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Clinical problem

During wound healing, full thickness wounds may become chronic due to closed or rolled non-proliferative wound edges. This condition is known as epibole. Generally, epibole is treated via surgical excision or chemical cauterization. For the homebound patient, these treatments are not always a viable option due to limitations of: accessibility, tolerance, affordability, co-morbidities, and mobility. Three patients with stalled wounds with epibole unable to be treated with traditional measures are presented: Patient 1, a 51-year-old male with a right foot venous ulcer with 60% fibrin/slough; Patient 2, a 58-year-old female with a stage IV left hip pressure ulceration with undermining; and Patient 3, a 62-year-old female with a dehisced abdominal surgical wound.

Past management

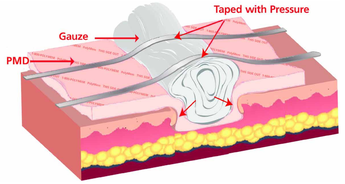
Patients' were managed with various advanced wound care dressings, 1 to 3x a week before a new management approach was initiated. The patients had various co-morbidities that affected the wound healing process.

Current clinical approach and rationale

Our home health care company has a corporate team of certified wound and ostomy nurses (CWON) available for consults. Following a request for wound consultation by the visiting clinician, the CWON identified each of these cases as non-healing chronic wounds secondary to epibole. A recommendation was made to apply a polymeric membrane dressing (PMD) using the same technique that was presented in a poster at the WOCN 40th annual conference in 2008. The described technique uses a rolled up gauze pressed firmly onto the PMD dressing to ensure firm, secure contact across the wound bed and to the thickened rolled edges. PMDs are a multifunctional dressing that focuses inflammation into the primary site of injury while continuously cleansing, debriding, moistening, absorbing and filling in the wound bed to provide an optimal healing environment. PMDs gently expand to fill and conform to the wound to help resolve and prevent rolled wound edges. PMDs were changed 3x a week. Per physician orders, the wounds were cleansed during dressing changes and a skin barrier was applied on the periwound skin. Note, once epibole resolved, use of PMD was discontinued because they were special order dressings, and they were not on formulary.

Patient outcomes

Using the appropriate application technique of PMDs, wound edges flattened and healing was reactivated in these complex patients suffering from chronic wounds. Patient 1 and 3 are currently discharged from home health with wounds which closed. Patient 2 is almost at closure. With the application of the PMDs there was an approximately 70% decrease in slough for patient 1. For all the cases there was an increase in granulation tissue as epibole resolved. Patient 2, with prior wound management, frequently was admitted into the hospital with wound infections. Once PMDs initiated, the patient experienced no wound infection and no re-admissions into the hospital.



Epibole resolution technique

A PMD is placed over a wound extending well beyond the wound edges. Place the PMD dressing with the side of the membrane without writing in contact with the wound surface. Rolled up gauze is used to push the PMD into contact with the deep wound surface and placed firmly against the closed rolled wound edges (epibole). The gauze roll is secured with tape and cotton cloth strips. The PMD flattens and pulls moisture into the closed dry wound edges.

Detailed patient overview

Patient Co-morbidities	Relevant Medical Information	Number of days and types of prior wound care before PMDs initiated	Day epibole developed	How long epibole present prior to PMD initiation	Start of PMDs on epibole and wound measurement	Number of days after PMD initiated when epibole resolved and wound measurement
Patient 1: 51-year-old male with a right foot venous ulcer Co-morbidities: • BMI — Obese • Weight — 396 lbs. • Height — 6 feet • Hypertension, • Type 2 Diabetes, • Congestive Heart Failure • Old Fractures	Blood glucose on average from 100 mg/dl to 200 mg/dl. Diabetic Medication: Insulin and oral medication. Oral medications for hypertension, congestive heart failure and edema. Edema +1-+2. Oral pain medication for old fractures. Possible arterial involvement with wounds. Patient non-cooperative with diagnostic vascular testing to assess perfusion status.	142 days of prior wound care with: • cadexomer iodine gel • bacteriostatic foam • collagen with a secondary dressing of a non-adhesive foam and light compression wrap • dressings changed 3x a week	Unknown at time of consultation	Unknown at time of consultation	Day 142 Wound Measurement: 9cm x 1.3cm x 0.4cm	78 days Wound Measurement: 6.6cm x 1cm x 0.3cm
Patient 2: 58-year-old female with Stage IV, left hip pressure ulceration, with undermining Co-morbidities: • Paraplegia from spinal cord injury, • Hypertension • tobacco user • Non-cooperative with pressure relief and smoking cessation recommendations.	Oral medication for hypertension, antibiotics for past wound infections.	195 days of prior wound care with: • hydrofiber dressings • topical antibiotic with packing strips • collagen dressings • hydroconductive dressing • dressings changed 3x per week Dressings to be changed 1x per week and as needed: • Collagen dressing • silicone contact layer • cover strip for wound closure • island dressing.	Day 95	100 days	Day 195 Wound Measurement: 3.0cm x 6.5cm x 2.2cm	81 days Wound Measurement: 2.5cm x 6.0cm x 2.0cm
Patient 3: 62-year-old female with dehisced abdominal surgical wound resulting from take down of ileostomy and closure of ventral hernia repair Co-morbidities: • Diabetes • Hypertension	Oral medication for diabetes and hypertension; antibiotics for dehisced surgical wound.	287 days of prior wound care with: • Cotton gauze packing strips changed daily • alginate dressing changed 3x a week	Day 274	13 days	Day 287 Wound Measurement: 6cm x 2cm x 2.2 cm	42 days Wound Measurement: 2cm x 1.5cm x 1.0 cm

Patient 1 – Right foot venous ulcer with epibole
Wound has not progressed in 40 days. PMDs started and changed 3x per week.
Wound Measurement: 9.0cm x 1.3cm x 0.4cm
Avascular wound bed with scant exudate and rolled wound edges. Wound odor present and macerated periwound skin. Patient elevating the extremity.

Patient 1
78 days after the application of PMDs epibole has resolved.
Wound Measurement: 6.6cm x 1cm x 0.3cm
Approximately 70% decrease in slough. Wound bed with granulation tissue. Odor resolved. Maceration improving.

Conclusions

Polymeric membrane dressings are an effective treatment for management of epibole when the appropriate dressing technique is employed. This home care agency cares for many patients, often who are in a remote area, or who have difficulty traveling to a health care facility. PMDs helped minimize the occurrence of a stressful situation for those who have difficulty travelling to a health care facility. Additionally the use of PMDs reduced re-admission into the hospital while helping to provide continuity of care. With not using sharp excision or chemical cautery, there was less cost for patients depending on their individualized insurance coverage. There was no invasive treatment to cause pain or discomfort. PMDs are new to this facility and resulted in positive outcomes. PMDs offered a new approach to resolving epibole. PMDs offered a non-invasive alternative to sharp excision or the use of chemical cautery for epibole.

Objectives

1. Discuss the application of a polymeric membrane dressing to resolve the problem of epibole.

2. Identify how polymeric membrane dressing components provide an optimal healing environment.

* PolyMem® wound dressings, PolyMem® Wic are made by Ferris Mfg. Corp., Fort Worth, TX 76106 USA, 800.POLYMEM (765.9636) • www.PolyMem.com
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