

A Drug-Free Dressing to Reduce Pain and Close Wounds Resulting from Fournier's Gangrene

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Problem

Fournier's Gangrene (FG) is infective necrotizing fasciitis of the perineum/genital area. It is a medical emergency and patients can die from complications. Often initially treated by surgical excision, FG can take six months or longer to close with advanced wound care. Some of the predisposing conditions linked to FG are diabetes, chronic steroid abuse and liver disease.

This case report is of a 64 y.o. Male, with type II insulin-dependent diabetes and congestive heart failure, who developed FG to the left groin/ scrotum. The patient had not been feeling well, and within 24 hours, presented in the emergency department with a 106-degree fever and a red splotch up the groin. Emergency excisional surgery performed, followed by an additional operation two days later. The patient was discharged home from the hospital four days later. Wound care: wet-to-dry dressings with sodium hypochlorite topical (0.125 percent), twice a day for 20 days. Oral antibiotics prescribed at home.

Home Pain Management: 7day course oral hydromorphone hydrochloride 2 mg, 2x per day 30 to 60 minutes before dressing changes. Sharp procedural pain, a 10 (0-10 scale) experienced with dressings changes because of adhesion. Constant burning, stinging pain experienced as a 6 to 7 while laying still. With patient shifting weight, pain a 10 which migrated from his testicle to his stomach. After hydromorphone hydrochloride was discontinued, acetaminophen or ibuprofen was administered at maximum doses to provide some relief. Procedural pain was a 10 and constant pain increased beyond 7. The patient described the quality of life as "terrible."



1 DAY AFTER 1ST EXCISIONAL SURGERY

- Left groin and scrotum.
- 19 days before Polymeric Membrane Dressings initiated.
- Pain 10 (0 - 10 scale) for the next 19 days.

Purpose

- Controlling inflammation is critical to help reduce secondary cell damage and pain. Polymeric Membrane Dressings* (PMDs) help control inflammation, which reduces secondary cell damage, which in turn reduces the typical swelling, bruising, increased sensitivity to stimuli, and pain experienced beyond the primary injury site. PMDs can improve the patient experience by reducing pain.
- PMDs reduce the interfacial tension between healthy tissue and non-viable tissue during autolysis while reducing the need for more painful debridement options.
- The PMDs have a built-in continuous wound cleansing system that is non-toxic and nonirritating, so manual cleaning is usually not necessary, eliminating the often-painful wound cleansing experiences.

Rationale

PMDs replaced painful wound management. Dressings applied: pink or silver PMD antimicrobial; pink or silver cavity filler for depth; rope dressing for tunneling. Extra-thick PMD applied when more absorbency needed. For reduced drainage, standard thickness PMD applied. Application Suggestion: A thick gauze pad was placed over PMDs to absorb perspiration. The dressings and genitals were secured with a jockstrap but there was some slippage when standard and extra thick PMD dressings, which have a film cover, were used so only the cavity filler was applied. The cavity filler does not have a film covered surface.

Initially, PMDs were changed, twice a day because of copious exudate, then reduced to every 1 to 3 days as exudate moderated. The frequency of dressing changes was not only based on exudate but patient activity level and patient's groin/scrotum area perspiration. Wound care was implemented by home care nurses and the patient's spouse, a nurse. After initial wound cleansing at the first PMD application, all cleansing was performed only by the actions of the dressing, per manufacturer instructions. Normal saline was used to cleanse crusted drainage on periwound skin.

Results

Persistent pain decreased after the first 4 hours with PMDs. During dressing changes, there was no procedural wound pain and the "dressings just slid off." Pain decreased from 10 to 0 within two days of PMD initiation. Acetaminophen and ibuprofen discontinued after 2 days.

PMDs absorbed the copious drainage and cleansed the wound while providing painless autolytic debridement. By day five, there was granulation tissue and no odor. Dressing changes decreased from twice a day to 3 days a week with healing. There were no complications. In 4 months and 26 days with PMDs, the wound closed. The patient had such positive wound healing with PMDs, the patient did not require the use of negative pressure wound therapy (NPWT) or a skin graft. The robust healing with PMDs is significant as FG can take up to 6 months, or longer, to close.

Conclusion

The patient, a retired physician, has never observed such immediate healing or pain relief caring for wound patients. It is essential to report these positive outcomes with PMDs, as health care providers are looking for alternatives to not only prescribing pain medication but to offer a drug-free approach that works. PMDs provide a drug-free alternative to help reduce wound pain while encouraging rapid wound healing and improve quality of life.

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*PolyMem® Dressings, PolyMem WOC® Cavity Filler, PolyMem WOC Silver® Cavity Filler, PolyMem WOC Silver Rope® Cavity Filler, PolyMem MAX®. Ferris Mfg. Corp., 5133 Northwest Parkway, Fort Worth, TX 76106 USA, 1-800-POLYMEM (765.3636) www.polymem.com

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20 DAYS AFTER SURGERY

Initial application of Polymeric Membrane Dressing (PMD); wound left groin and scrotum

- Silver rope for tunneling, pink cavity filler, and covered with a pink standard PMD.
- Dressings changed twice a day.
- Wound Measurement: 13 cm x 8 cm x 5.6 cm=582.4 cm³
- The wound with scattered areas of slough.
- Wound Exudate: Copious, serosanguineous, odorous.
- Tunneling: 12 to 3 o'clock- 4.2 cm: 6 to 9 o'clock- 2.4 cm
- Initial pain, a 10.
- Pain a 0, two days after PMD use (No image).



15 DAYS AFTER THE INITIAL APPLICATION OF PMDS

- Wound Measurement: 10 cm x 9 cm x 4.3 cm=387cm³
- Volume wound reduction from initial application of PMDs is 33.8%
- Wound granulating and exudate decreasing, serosanguineous, no odor
- Dressings changed every 1 to 2 days, depending on the amount of drainage
- Tunneling resolved approximately 20 days after rope applied; rope dressing continued in the creases of the wound with silver cavity filler dressing for 68 days Cavity filler covered with PMD standard or extra-thick depending on drainage. As exudate decreased, just the silver cavity filler was applied.



91 DAYS AFTER THE INITIAL APPLICATION OF PMDS

- Wound Measurement: 5 cm x 3.8 cm x 0.8 cm=15.2cm³
- Volume wound reduction from 15 to 91 days is 96%.
- Volume wound reduction from the initial application of PMDs is 97.3%.
- Smaller granulating wound with epithelialization at wound edges.
- Small serosanguineous exudate.



WOUND CLOSURE

- 148 days (4 months and 28 days) from PMD, the initial application of PMDs.
- Pink standard PMDs were applied for 21 days after wound closure to strengthen the scar tissue.
- PMDs were changed every 4 to 5 days.