

Inflammation Relief Provides Key to Healing for Four Young People with Pyoderma Gangrenosum

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PROBLEM

Four active young adults, three with Crohn's Disease and one with Ulcerative Colitis, developed excruciatingly painful slough-filled lower leg pyoderma gangrenosum (PG) wounds. Two of the young people were reluctantly adherent to aggressive treatment plans for their inflammatory illness, including high-dose steroids and antibiotics. The other two refused. All believed these medications were likely to slow wound healing, cause gut microbiome imbalances, and lead to more problems.

All four patients had to dramatically limit their usual productive activities (work or school) due to pain, medication side effects, and wound-related disability. When it became apparent that the wound guidance they had been receiving was ineffective for pyoderma gangrenosum, the patients and/or their families searched online for alternative wound management methods.

RATIONALE

Polymeric membrane dressings* (PMDs), originally designed to decrease pediatric burn patients' pain during dressing changes, are an ideal choice for PG wounds for many reasons. PMDs address the underlying cause of the ulcers (inflammation) directly by subduing the nociceptor (pain-sensing nerves) response. PMDs' components work synergistically with the body to gently, continuously debride wounds, avoiding pathergy while eliminating barriers to healing. PMDs also promote brisk wound healing by concentrating nutrients in the wound bed and fostering an optimal moisture balance across the entire wound surface. PMDs do not adhere to the wound bed, avoiding this potential source of trauma. Finally, PMDs are recognized as a "pain relieving" dressing because of their effect upon the nociceptor system. PMDs met every identified wound need.

METHOD

All four patients' wounds had been previously treated using conventional "non-adherent" dressings, without success. Each of the patients decided (with their local physician's consent) to try PMDs with email or smartphone guidance from the author. No wound cleansing or manual debriding was ever required. In collaboration with their local physicians, all antibiotic and prescription pain medications were gradually eliminated. No topical wound treatments were used with PMDs; none of wounds were even routinely rinsed. PMDs were simply removed and replaced when saturated. Patients performed all dressing changes themselves, with family assistance if needed.

RESULTS

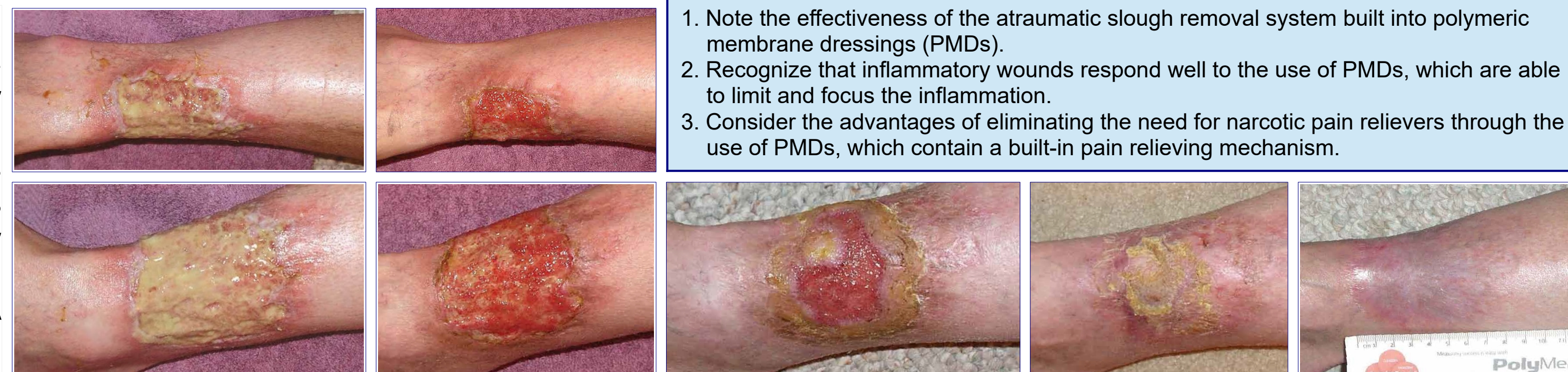
All of the wounds were already markedly cleaner and most were measurably smaller by day four. Pain medication use rapidly decreased and activity rapidly increased. Three of the four wounds fully closed in 3½ months using PMDs as the only topical wound management product. The fourth patient became unable to obtain PMDs; her wound remained open much longer.

Patient 1: A 21-year-old student developed PG in a spider bite wound. Dressings were changed 3 - 4 times per day. She was unable to tolerate the pain with silver alginate and iodide gauze dressings. Calcium bentonite clay poultices diminished the pain somewhat, but the ulcer size continued to increase. She wore compression, but refused systemic anti-inflammatories, stating that they did not help with her Crohn's Disease. After 3 months, she began using PMDs. Pain relief was dramatic, and dressing change frequency decreased steadily. Two months later, a Crohn's flare led to a recurrence. Using silver PMDs, the new ulcer progressed to closure in 3½ months. She continued to use PMDs to keep inflammation low, which leads to a flatter, stronger scar.



11 May: Immediately prior to PMD initiation | 12 May: After 2nd dressing (at 16 hrs) | 25 May: Minimal pain, no medications | 14 July: Recurrence due to Strep & Crohn's | 7 Aug: Silver PMDs painlessly debrided | 5 Nov: Closed. PMDs improving remodeling

Patient 2: A woman⁷ with ulcerative colitis endured a painful PG ulcer which increased in size for 4 months despite 60mg prednisone + 250mg cyclosporine daily x3wks (after dapsons failed). Honey was too painful. Petrolatum gauze with warm soaks led to pseudomonas colonization. Even with high dose opioids, her pain was too great for her to wear socks (it was winter), and they prevented her from driving down the mountain to work. PMDs allowed her to get completely off opioids in 3 wks. A week later she could wear socks, then shovel snow. The ulcer closed while she simultaneously weaned down to 8mg prednisone and 100 mg cyclosporine in 3½ months.



Before silver PMDs: thick slough, maceration, & excruciating pain | Day 19 of PMDs. Closing well; no pain meds today. | Day 66: Silver extra-thick PMDs decreased change frequency | Day 104: Closed. Crusts gently soaked off | PMDs strengthened scar for 4 wks (Photo at 1 year)

OBJECTIVES

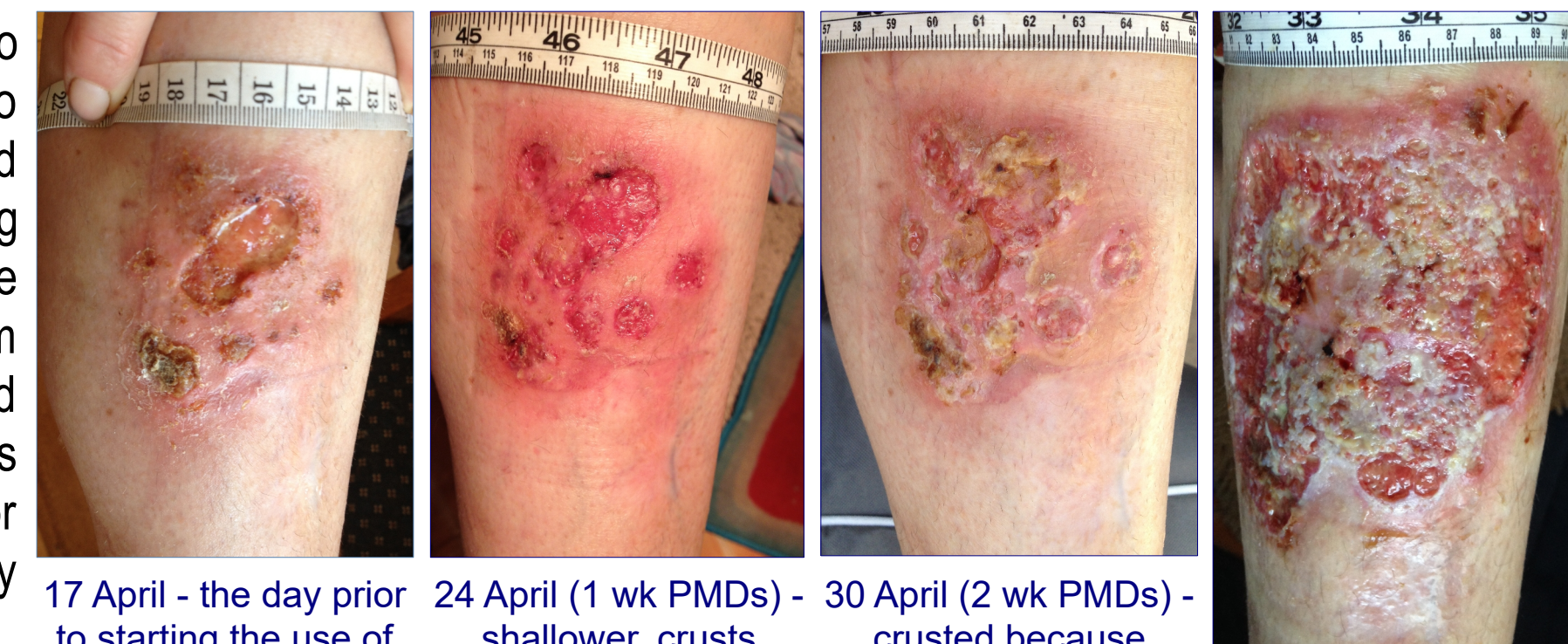
1. Note the effectiveness of the atraumatic slough removal system built into polymeric membrane dressings (PMDs).
2. Recognize that inflammatory wounds respond well to the use of PMDs, which are able to limit and focus the inflammation.
3. Consider the advantages of eliminating the need for narcotic pain relievers through the use of PMDs, which contain a built-in pain relieving mechanism.

Patient 3: A semi-professional baseball player quit due to Crohn's Disease and two hospitalizations for pyoderma gangrenosum ulcers on both of his lower legs and his toe. He took opioids prescribed by his pain specialist physician, doxycycline, and cannabis. His pain was constant at a 5 (0-10 scale). He had tried honey dressings, but could not tolerate the pain. He was using coconut oil under abdominal pads, which absorbed the exudate and did not adhere to the wound beds, but was not supporting wound closure. He took prednisone reluctantly and intermittently, due to concerns about the side effects. After several months, his father, who was his full-time caregiver and advocate, reached out to the author for instructions on using PMDs. The young man's largest ulcer (pictured) was 24x11cm when he began using extra-thick PMDs, supplied by home health. The wound became cleaner and less inflamed overnight. By 3 weeks of PMD use, the wound bed was clean and fully granulating and his pain was controlled enough to permit outdoor exercise again. By three months, he no longer sought regular email guidance, so the date of wound closure is unknown. At one year his father sent a photo of his smooth, remodeled scar.



10 days prior to first use of PMDs | After 5 days of PMD use - clean & flat | At 3 months of PMD use | After one day of PMD use | After 3 weeks of PMD use: fully granulating, closing rapidly, and PMDs' pain-relieving properties permitted the patient to become active again. | One year after PMD initiation (Exact closure date not provided)

Patient 4: A young woman with Crohn's Disease developed a 9x9cm PG ulcer. She said she would, "refuse to go on powerful horrible drugs, unless it's the last resort!" attributing her severe chronic sinusitis and neuropathy to previous use of adalimumab. (TNF inhibitors increase neuropathy risk by 250%.) She took colloidal silver and had gradually decreased her anti-inflammatories to 7mg a day of prednisolone. She tried a conventional foam dressing for the current ulcer without improvement. Next, she used cortisone cream and red laser therapy, keeping the wound open to air. When she tried PMDs instead, she experienced dramatic pain relief, quickly dropping from opioid pain medications daily to only acetaminophen every few days. Her ulcer immediately became cleaner, and it flattened as the inflammation resolved. However, because she lived on a small island, obtaining PMDs was difficult. When she ran out of standard PMD configurations, she found finger/toe dressings and cut them open for use on her ulcer. But due to the limited supply, she failed to change the PMDs when indicated. Also, she routinely "squeezed the stuff" out of the wound bed at dressing changes and dried the wound, which promotes pathergy. The woman's local healthcare providers, unfamiliar with PMDs, switched her back to conventional foam dressings and demanded that she get back on high-dose biologics. She obeyed, and her ulcer closed 9 months later.



17 April - the day prior to starting the use of PMDs. Patient's goal is to decrease pain & "dry up" the ulcers. | 24 April (1 wk PMDs) - shallower, crusts debrided, granulating. Pain minimal. Patient still wants ulcers dry. | 30 April (2 wk PMDs) - crusted because patient is intentionally drying ulcers. Also, running low on PMDs. | 22 June - No PMDs for 2 weeks - using conventional foam.

WHAT IS PYODERMA GANGRENOSUM?

Pyoderma gangrenosum is a notoriously painful inflammatory wound often related to autoimmune disorders. Traditional debridement, including both manual and sharp, is contraindicated because any manipulation of the ulcers causes them to increase in size (pathergy). Biopsy reveals high neutrophils. Other hallmarks include hemorrhagic pustules or nodules and irregular, violaceous borders. The "classic form" (lower leg ulcer) represents 85% of cases. Cultures usually reveal only opportunistic pathogens; antibiotics are not recommended. The dysregulated immune system causes the ulcers to produce slough. Strong anti-inflammatories are usual practice but come with significant, even life-threatening, side effects. Even "non-adherent" dressings usually adhere to the wound bed, increasing pathergy.

CONCLUSION

All of the patients' goals were met or exceeded when PMDs were used as directed. Persistent use of PMDs resulted in decreased inflammation, excellent pain relief, brisk atraumatic slough removal, increased quality of life, and steady healing to complete closure of three very challenging PG wounds managed with PMDs. When PMDs were halted prematurely (the fourth patient), the PG wound stopped closing.

DISCUSSION

As would be expected, addressing the cause of the pain and poor healing directly with PMDs resulted in quick pain relief and rapid PG closure.

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*PolyMem® Dressings, PolyMem WIC® Silver, PolyMem MAX® Dressings, and PolyMem MAX Silver Dressings, collectively referred to generically as "polymeric membrane dressings" or PMDs, are made by Ferris Mfg. Corp. in Fort Worth Texas, USA. The author (the clinician) is a Ferris Mfg. Corp. employee.