

# Pyoderma Gangrenosum: Rethinking Old Dogma

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A Look Ahead: New Perspectives in Wound Healing



# Disclaimer

- Nothing to disclose

# Pyoderma Gangrenosum

- Rare inflammatory ulcerative disease causing exquisitely painful progressive necrosis of the skin.
- Most commonly affected are adults between the ages of 25 - 50 years with a propensity for females versus males.
- Ulcers may occur at any anatomical site; however, the lower extremities are most frequently affected.
- Disease etiology remains obscure with current theories pointing to immune system dysfunction as the most likely trigger.

# Diagnosis

- Histopathology
  - nonspecific, demonstrating neutrophilic infiltration, hemorrhage, and necrosis of the epidermis
- Serology
  - findings have been inconsistent
- Diagnosis is primarily based on history and clinical presentation, often requiring biopsy to rule out other causes of ulcer including infectious, malignant, collagen or vascular diseases

# Comorbidity

- Associated conditions in up to 75% of patients.
  - Inflammatory bowel disease
  - Arthritis
  - Hematologic abnormalities
    - Lymphoma
    - Myeloma
    - Leukemia
  - Immunologic abnormalities
    - SLE

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- Smaller similar satellite lesions are often observed
- **Exquisite tenderness of these lesions is distinctive**

# Treatment

- Due to the scarcity of the disease and the perplexity surrounding pathology, no standardized treatment is recognized
- Management strategy is individualized and based on evaluation of each unique case

# Topical Therapy

- Topical treatment is gentle and conservative
- Moist wound healing consisting of wet-to-dry gauze compresses, antibiotic creams, or a hydrocolloids
- Topical or intralesional injections of steroids have produced favorable outcomes for many patients, particularly those with smaller lesions

# Systemic Therapy

- Corticosteroids
  - initial doses of 1 to 3 mg/kg/day
- Cyclosporin A
  - daily dosages range from 5 to 10 mg/kg
- Sulfasalazine
- Dapsone or Clofazimine (anti leprosy agents)
- Colchicine
- Systemic Antibiotics
  - tetracycline, rifampin, vancomycin, clindamycin, and mezlocillin

# Surgical Management

- The role of surgery is controversial due to the risk of **pathergy**, a phenomenon where minor trauma can result in progressive destruction of healthy appearing skin

# Rethinking Old Dogma...

- Intense inflammatory process
- Ischemia reperfusion injury

# Rethinking Old Dogma

- Does HBOT have a role in the management of IRI?
- Can HBOT play a role in the management of PG?



## CASE REPORT

# Managing Pyoderma Gangrenosum: A Synergistic Approach Combining Surgical Débridement, Vacuum-Assisted Closure, and Hyperbaric Oxygen Therapy

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**P**oderma gangrenosum is a destructive cutaneous disease characterized by a painful, progressive, necrotizing process. Conservative management utilizing prolonged, high-dose systemic corticosteroids and other immunosuppressants, in addition to gentle local wound care, characterizes traditional treatment. We present a

case of pyoderma gangrenosum that responded to a synergistic approach combining surgical débridement, vacuum-assisted closure, and hyperbaric oxygen therapy. Increased discomfort, and favorable cosmetic appearance, was also observed.

### CASE REPORT

A 46-year-old African-American man first presented to the emergency department for evaluation of an excruciatingly painful left anterior tibial wound on January 28, 2002. Onset of the



















# Summary

- Rare inflammatory ulcerative disease
- Exquisitely painful progressive necrosis
- Nonspecific histopathologic diagnosis of exclusion
- No recognized standard treatment
- New management options promising
  - HBOT does have a role in the management of PG
  - Wide Excision, NPWT, HBOT, STSG