Pyoderma Gangrenosum

When nothing else fits!

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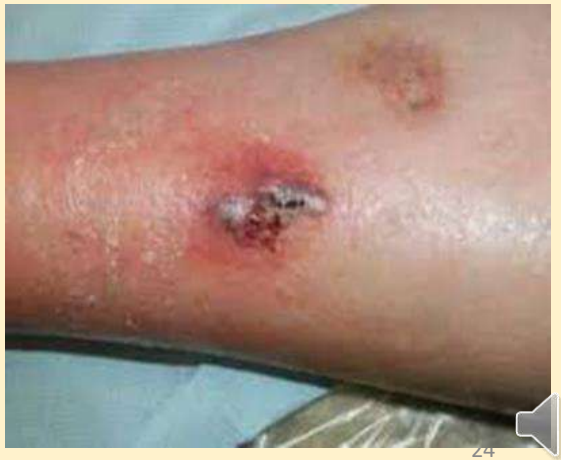
Scenario

Mrs P has been under your care in clinic for treatment of a chronic lower leg wound. She states it began with what she believes was an insect bite as small blisters were visible.

Her main goal of care is to stop the pain the wound is causing.

On initial examination the wound was

- Anterior/ medial aspect
- Irregular dusky edges with surrounding erythema
- Approximately 2cm /3cm, shallow
- Moderate haemoserous exudate
- Extremely painful



Clinical History

Mrs P is 70 years old with a history of

- **Rheumatoid arthritis**
- **Hypertension**
- **Type II diabetes** (HbA1c- 50).
- Mildy **obese** but has recently lost 10kg
- Constant wound **pain** is her greatest concern, worse during dressing changes.

Medications include:

Dexamethazone -5mg D increased to 20mg during flair ups.

Metformin -10mg D

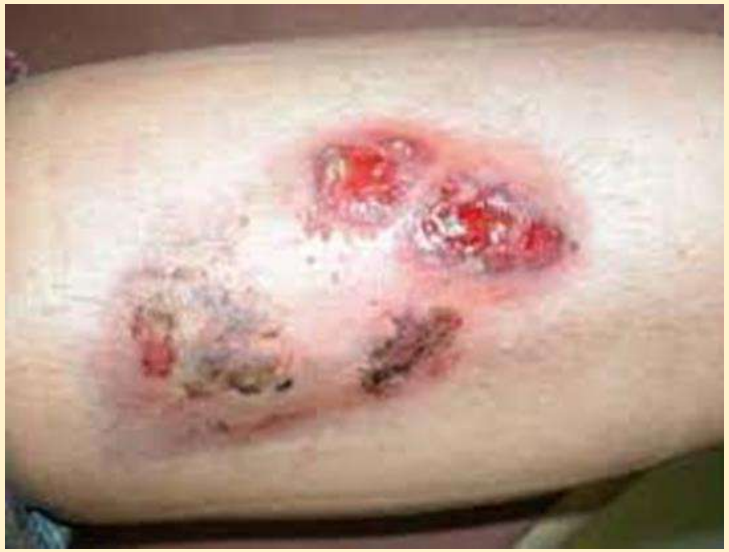
Quinapril – 10mg D

Panadol 1g- 4 x D

Sevredol 10mg – 4 hourly prn

Investigations

After a month of conservative treatment the wound had not improved and other areas of ulceration had developed around the initial wound. Investigations included:



- Wound microbiology - light growth of organisms resembling commensal skin flora
- ABPI – 0.9 on both legs
- Tissue biopsy was performed which showed nil abnormalities

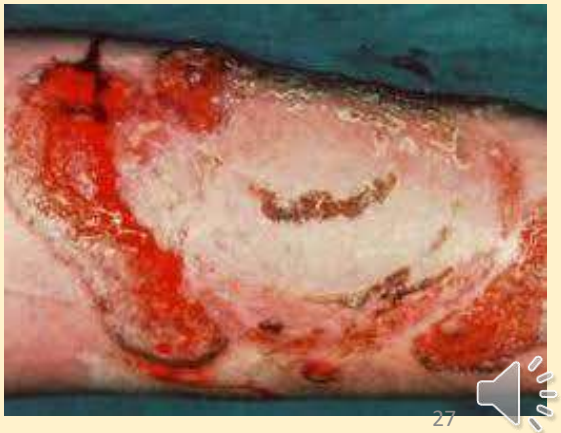
Diagnosis

- It was noted that further ulceration occurred at the **biopsy site** and the wound continued to exacerbate in general becoming more painful- **(Pathergy)**

- **Pathergy** is the development or flare of skin lesions after minor trauma, such as a needle prick or biopsy.

- Despite appropriate **wound care** necrotic areas especially at wound edges increased, accompanied by surrounding erythema.

Diagnosis -Pyoderma Gangrenosum



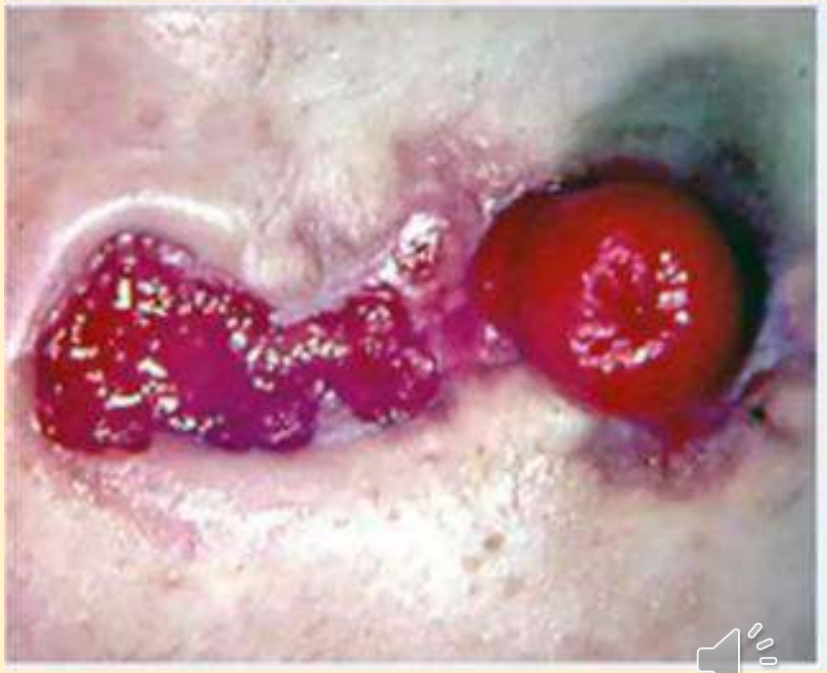
Pyoderma Gangrenosum

- Pyoderma gangrenosum (PG) is a rare wound which usually characterized by **highly painful** purulent pustules or deep, rapidly enlarging ulcers with purple, undermined edges.

- It is one of a group of **auto-inflammatory** disorders known as **neutrophilic dermatoses.**

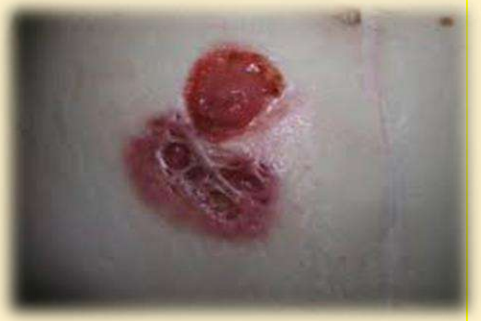
- They can occur on any part of the body.

- The name pyoderma gangrenosum is historical. The condition is **not** an infection (pyoderma), **nor** does it cause gangrene!



Diagnosis by Exclusion-when nothing else fits*

- Often an inflamed **dusky ring** around the perimeter is observed
- **Tissue biopsy will** exclude all other causes- infection, malignancy, autoimmune processes, drug- induced vasculitis and vascular disease.
- **Histopathology** of ulcer edge may show a **neutrophilic infiltrate**.
- More common in **women** aged 40-60
- 50% -70% of cases will have an **underlying autoimmune** disorder such as
  - RA (16%)
  - Inflammatory Bowel disease (64%)
  - Multiple myeloma/haematological malignancies(11%)



- **15%** of PG cases are associated with **stoma** formation
- Patients may have a positive ANCA (antineutrophil cytoplasmic antibody).

Living With Chronic Wounds: Finland – Patient

https://www.youtube.com/watch?v=RIA3W4nafW0

Systemic Treatment Options

Usually for larger ulcers due to pyoderma gangrenosum may include:

- Oral prednisone for several weeks or longer, or intermittent intravenous methylprednisolone for 3–5 days
- Cyclosporine, which is as effective as prednisone and has differing adverse effects and risks
- Biologic agents: There is a growing body of evidence for success with the Tumor necrosis factor (TNF)-alpha inhibitors
  e.g. infliximab, adalimumab, etanercept
- Oral anti-inflammatory antibiotics such as doxycycline or minocycline
- Methotrexate

Topical Treatment Options

- Topical local anaesthesia during dressing changes e.g.lignocaine
- Non irritant anti-microbial cleansers to prevent secondary infection
- Potent topical corticosteroid application as part of dressing regime
- Tacrolimus ointment (calcineurin inhibitors work by blocking calcineurin, a protein in our bodies that helps activate our immune system).
- Intra-lesional steroid injections into the ulcer edge
- Cyclosporin solution

Wound Treatment Barriers and Solutions

Barriers

Slough and biofilm/infection

- Typically slough will form but any sharp or mechanical debridement, though tempting, can result in **pathergy.**
- **Pathergy**, the hallmark of PG means any physical action on the wound with make it worse (remember Mrs P's biopsy).

Solutions

- Dressings to enhance **autolytic debridement** if slough present, and exudate management
    - Hydrocolloids
    - Foam
    - Gelling Fibres
- **Hydrofera Blue -** antimicrobial and anti-inflammatory (M-blue)
- **Enzymatic slough** reduction – Hyal4O Start and Silver Spray (Hyaluronic Acid & collagenase)
- **Iodosorb** can be very **painful**

Wound Treatment Barriers and Solutions-cont

Barriers

Pain

- Wound pain is generally severe with these patients limiting cleansing options.

Leakages

- Leakages and frequent or traumatic bag changes will exacerbate wound -**pathergy**

Solutions

- **Protection** from ongoing irritation and pressure using **skin protectant wipes**, gels and film dressings or **hydrocolloid patches** over PG under appliance.
- **Silicon based primary dressings** to reduce skin trauma
- **Adhesive removers**
- **2 piece systems** to reduce friction and trauma at each bag change and good education around bag changes.
- **Topical analgesia** as per previous slide

Wound Treatment Barriers and Solutions

Barriers

PG on limbs with venous ulceration

- Normal compression bandaging if indicated (ABPI) may not be tolerated due to pressure aggravating the wound and pain.

Scarring

- **Cribriform (criss cross)** scarring can be obvious at the site of the wound.
- Don't underestimate the traumatic effect of changes in body image consider both stoma formation and scarring.

Solutions

- **Light** compression bandaging
- Encourage venous/ lymphatic drainage using limb **elevation** and ensure **diuretic treatments** are maintained
- **Grafting,** and in severe cases, **amputation,** should be **avoided during active disease** as further PG can occur at the graft or stump site.
- Skin grafting may be indicated to reduce scarring both for healing and after resolution ??????????

Support for you and for them

Support from the multi-disciplinary team is paramount

- Dermatologist
- Gastro
- Dietitian
- Homecare nurses
- Pain Specialists
- Ostomy patient groups

Support for the nurse

- Share with MDT and colleagues
- Professional Supervision

PG is rare…but

…but have you noticed an increase in patients presenting with PG either around stomas or on lower limbs?

- During COVID-19 infection, primary wound healing processes always prolong and the underlying mechanism for this is unclear

- Multiple authors have hypothesized that exposure to the COVID-19 spike protein antigen via infection or vaccination may trigger an autoimmune response that mediates PG

- Low level research at this stage.

Pyoderma Granulosum- Summary

- PG is an uncommon, extremely painful disorder usually effecting the skin integrity and healing processes of patients with autoimmune associated disease.
- It more commonly effects women aged between 40 and 60.
- Management requires an inter-professional approach.
- Diagnosis is made through the exclusion of other pathology.
- Treatment is dependent on the size of the lesion but is usually a systemic and local approach.
- Early recognition and diagnosis is essential to optimal care.
- The increased incidence after COVID or COVID vaccination is currently a topic for study and debate.
- **Help each other.**

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