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Case Report Pyoderma gangrenosum following Laparotomy A diagnostic challenge

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Case Report – Pyoderma gangrenosum following Laparotomy – A diagnostic challenge

Abstract

Pyoderma gangrenosum (PG) is a rare, non-infectious inflammatory neutrophilic dermatosis characterized by rapidly progressive painful ulcerations, often associated with systemic auto immune diseases such as IBD[1]. It can also be associated with solid tumors and hematologic malignancies[2].It is neither an infectious disease nor a gangrenous disease as suggested by its name but an autoimmune disease caused by an abnormal immune response, neutrophil dysfunction[3].

The condition poses diagnostic challenges due to its resemblance to infectious or vascular ulcers with absence of any pathognomonic featureexcept presence of neutrophile infiltration on skin biopsy. It is usually a diagnosis of exclusion.

Any skin trauma, such as a surgical incision, can trigger an outbreak of lesions[4].

Early recognition and management by steroids and anti-inflammatory drugs are the mainstay in management.

Keywords: pyoderma gangrenous, autoimmune, painful skin ulcers, steroids

Case Report

We report a case of PG in a 25-year college student reported to surgical emergency with a 1-day old peritonitis due to perforation of Meckel's diverticulum without any underlying systemic disease.

The patient developed large painful superficial ulcers which improved on systemic and topical steroids and anti-inflammatory therapy. This case emphasises the importance of clinical suspicion, exclusion of mimics, and prompt immunosuppressive therapy.

Conclusion

This case underscores the importance of clinical awareness of pyoderma gangrenosum which is a rapidly progressive, painful ulcers following any major

or minor trauma and is unresponsive to antibiotics but with dramatic improvement after immunosuppressive therapy

Keywords: Pyoderma gangrenosum, painful skin ulcers, neutrophilic dermatosis, immunosuppression.

Case Report

25-year college student reported to surgical emergency with a 1-day old peritonitis due to perforation of Meckel's diverticulum. She underwent exploratory laparotomy with resection of MD and primary anastomosis of ileum.

The patient had unusual pain at operation site from day 0.

By post-op day 2 the wound started gaping with serous discharge and fever and extreme pain.

The skin around the incision too was inflamed so the Laparotomy stitches were removed on suspicion that there was a collection and NPWM (negative pressure wound management) was started.

At the same time there was a painful swelling over left deltoid region where an injection had been given.

Because it had all signs of an abscess an incision was given to drain it but only some serous fluid and no pus was drained. Vacuum dressing was applied but the lesion persisted with spread

A superficial spreading extremely painful ulcer appeared at the laparotomy site and the left deltoid which spread laterally rapidly.

All the lab reports were normal except for extremely high TLC and ESR with low hemoglobin (Hb-8 gm%). Her CRP (24mg/L) too was markedly raised.

Swab for C/S and GM stain and ZN stain all turned out to be negative.

Her ANCA was done which was negative

A dermatology reference was taken and a skin biopsy done which reported as acute inflammation with neutrophilic infiltration

A diagnosis of Pyoderma granulosa was suspected and oral prednisolone in dose of 1mg/kg/day was started.

The wound was managed with saline wash and with local application of Triamcilone actonide and tacrolimusointment byPOD 10

The lesion continued to spread with newer patches appearing till post-op day 20 then started improving. Pain persisted and was controlled by IVparacetamol and later a Buprenorphine 10 mg patch.

The lesions healed almost completely with a large scar by POD 40

She was discharged with advice to continue with local application of Triamcilone and Tacrolimus ointment till complete healing which occurred after 60 days post op.

Discussion

Pyoderma gangrenosum is an alarming condition for both the patient and the surgeon and more importantly is a diagnosis of exclusion. It is a painful ulcerative auto inflammatory condition which best responds to steroids and at times immunosuppression[5].

There are 3 systems of criteria – Mayo, Delphi Consensus, and PARACELSUS-score[6] and Maverakis / Delphi consensus criteria (2018)[7] criteria was used to help diagnose this condition.

It consists of:

Major criterion

- Histopathology of ulcer edge must show a neutrophilic infiltrate.

Minor criteria

- Exclusion of infection
- Pathergy
- History of inflammatory bowel disease or inflammatory arthritis
- History of papule, vesicle, or pustule ulcerating within four days
- Peripheral erythema, undermining border, and tenderness at the ulcer site
- Multiple ulcers, at least one on the anteriorlower leg
- Cribriform or wrinkled paper scars at the site of the healed ulcer

- Decreased size of the ulcer within one month of initiating immunosuppressive medication.

But presence of lot of these is absent in most cases.

Management

In case of painful spreading ulcers after trauma aprompt diagnosis to exclude any infection together with skin biopsy showing neutrophilic infiltration which responds to immunosuppression and anti-inflammatory agents is the key to management.

Conclusion

This case underscores the importance of clinical awareness of pyoderma gangrenosum which is a rapidly progressive, painful ulcers following any major or minor trauma and is unresponsive to antibiotics. It may be associated with some auto-immune conditions most commonly being IBD. Prompt diagnosis and immunosuppressive therapy can lead to excellent outcomes and prevent unnecessary surgical intervention.

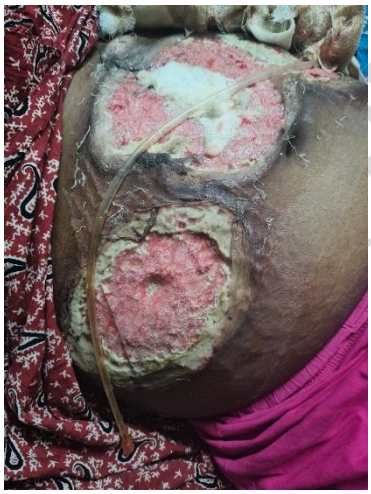

Figure 1 POD5

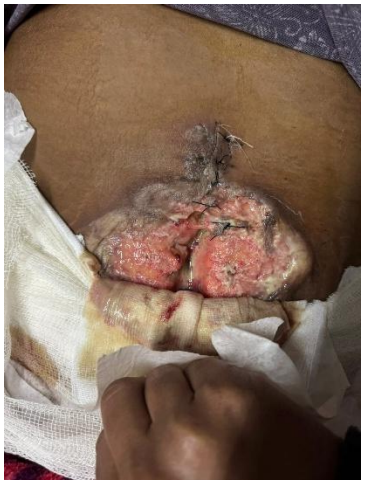

Figure 2 POD 20

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