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ENDGAMES

CASE REVIEW

Multiple eruptive ulcers in a patient with quiescent ulcerative colitis

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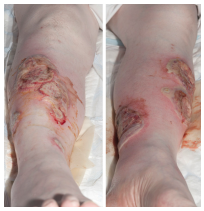
A 65 year old man with ulcerative colitis presented with a one week history of rapidly expanding, painful, necrotic ulcers over the lower limbs, perineum, and peristomal skin. He had no bowel symptoms. Eighteen months earlier he had undergone a subtotal colectomy and stoma formation. His ulcerative colitis was then in remission and he had been treatment free since then.

On examination he was pyrexial and drowsy with a Glasgow coma scale of 14/15. His stoma was functioning well. Multiple purple edged ulcers with central slough (fig 1) affected large areas of both legs as well as a 10×5 cm area in the right groin. There was also a peristomal ulcer surrounding the entire stoma site. Blood results are shown in table 1.



Widespread ulcerating ulcers with overhanging edges on the lower legs

Surgical debridement was cancelled after review by a dermatologist. All wound swabs and blood cultures remained negative.

Questions

1. What is the diagnosis?
2. What is the link between this condition and inflammatory bowel disease?
3. What are the treatment options for this condition?

Answers

1.

What is the diagnosis?

Painful rapidly growing ulcers on a background of ulcerative colitis is consistent with ulcerative pyoderma gangrenosum and peristomal pyoderma gangrenosum.

Pyoderma gangrenosum typically starts as small papules and rapidly evolves. It is often misdiagnosed as infection or vasculitis. Wound cultures are often negative initially; however, after skin breakdown these wounds are subject to secondary infection.

Inflammatory markers may be raised because of underlying systemic disease. They may also be raised with the degree of inflammation associated with pyoderma gangrenosum.

Pyoderma gangrenosum is idiopathic in up to 50% of cases but can be associated with ulcerative colitis, myelodysplasia, lymphomas, arthritides, and certain drugs.[1-3]

Different presentations of pyoderma gangrenosum are presented in box 1.

Box 1: Types of pyoderma gangrenosum and their presentations[4]

Ulcerative pyoderma gangrenosum

Rapidly evolving ulcerations with typical well defined violaceous borders. Most common and can be the most severe

Pustular pyoderma gangrenosum

Discrete pustules, with a surrounding erythematous halo, commonly associated with inflammatory bowel disease

Bullous pyoderma gangrenosum

Grouped vesicles coalescing to form large bullae. Often associated with myelodysplastic conditions

Vegetative pyoderma gangrenosum

Presents as erythematous ulcerated plaques without a characteristic undermined border. May develop erosions

Peristomal pyoderma gangrenosum

Can occur around the stoma site as a result of trauma and the pathergy response. Onset ranges from two weeks to three years after stoma formation

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2.
What is the link between this condition and inflammatory bowel disease?

Approximately 30-60% of pyoderma gangrenosum cases are associated with ulcerative colitis.[1 2]

Around 2-8.5% of patients with ulcerative colitis[4 5] may develop pyoderma gangrenosum. The condition occurs less commonly with Crohn's disease.

The cytokine profile in patients with ulcerative colitis is a risk factor, regardless of bowel status, and pyoderma gangrenosum may develop after total or subtotal colectomy and in the absence of symptoms of ulcerative colitis.

Some cases of pyoderma gangrenosum improve after proctocolectomy,[6-8] and therefore the pathogenesis of the condition was initially thought to relate to the activity of the bowel disease We suspect that neutrophilic dysfunction in ulcerative colitis leads to inflammation and an influx of IL1β, TNFα, IL6, IL8, IL17, IL23, and matrix metalloproteinases, which likely play a role in the pathogenesis of pyoderma gangrenosum. These cytokines can also be found in pyoderma gangrenosum histology samples.[2]

Genetic susceptibility to developing pyoderma gangrenosum and other extra intestinal manifestations of ulcerative colitis remains inherent despite bowel/rectal resection, even in the absence of ulcerative colitis symptoms.

3.
What are the treatment options for this condition?

High dose steroids (intravenous, oral) and/or immunosuppressants.[9]

The anti-inflammatory action of antibiotics (eg, minocycline, doxycycline) may help to reduce the cytokine influx and inhibit neutrophil function, as well as offering antibacterial properties. Dapsone (an anti-inflammatory and antimicrobial compound) can also be useful.

Topical super potent steroids may be useful in local disease.

Most patients need systemic therapy such as glucocorticoids, which can induce a rapid response. Other therapeutic options include ciclosporin,[10] azathioprine, methotrexate, and mycophenolate mofetil (less hepatotoxic). The use of anti-tumour necrosis factor inhibitors such as infliximab and adalimumab are well described.[11] IL1 receptor antagonists are an emerging therapy.

Susceptibility to pyoderma gangrenosum remains inherent despite bowel/rectal resection for ulcerative colitis.

Learning points

- Ulcerative pyoderma gangrenosum involves rapidly evolving ulcerations with typical well defined violaceous borders
- It is the most common form of PG and can be the most severe.
- It is linked with UC in 30-60% of cases
- Onset of peristomal pyoderma gangrenosum at the stoma site can occur anywhere from two weeks to three years after stoma formation.

Patient outcome

Broad spectrum antibiotics and high dose corticosteroid therapy resulted in a substantial clinical improvement. After the addition of mycophenolate mofetil, the ulcers healed with cribriform scarring over the course of three months, and the patient will remain on mycophenolate mofetil for six months.

Patient consent obtained.

Competing interests *The BMJ* has judged that there are no disqualifying financial ties to commercial companies. The authors declare the following other interests: none

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Table

Table 1| **Blood results**

Test/unit	Result	Normal range
C-reactive protein /mg/L	200	<4
White cell count/×10^9/L	15	4-11
Neutrophil count/×10^9/L	14.1	1.5-8