A Case of Pyoderma Gangrenosum Following Venous Sclerotherapy

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Introduction

Pyoderma gangrenosum (PG) is a rare, sterile inflammatory neutrophilic dermatosis most commonly associated with systemic inflammatory conditions including irritable bowel diseases and myeloproliferative disorders. It typically presents as lower extremity painful nodules that progress to open wounds with associated mucopurulence. The pathophysiology remains unclear, but is thought to be secondary to neutrophil dysfunction and increased cytokine production in the setting of autoinflammatory disorders. Its presentation can vary widely and is difficult to distinguish from infection, vasculitis, and other disorders. Diagnosis relies on careful examination of a patient's history in conjunction with biopsy pathology.

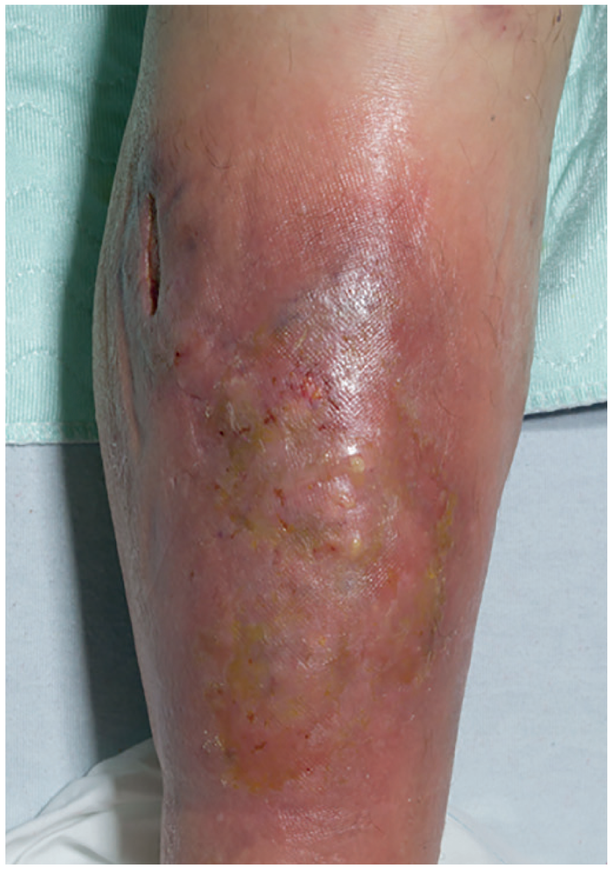
Case Report

A 61 year old male with history of hidradenitis suppurativa presented to the emergency department after being referred by wound clinic for suspected cellulitis. One month prior, he underwent bilateral venous sclerotherapy for lower extremity varicose veins. Since then, he had developed four erythematous plaques with central erosion and crusting on the bilateral lower extremities with induration and tenderness to palpation.

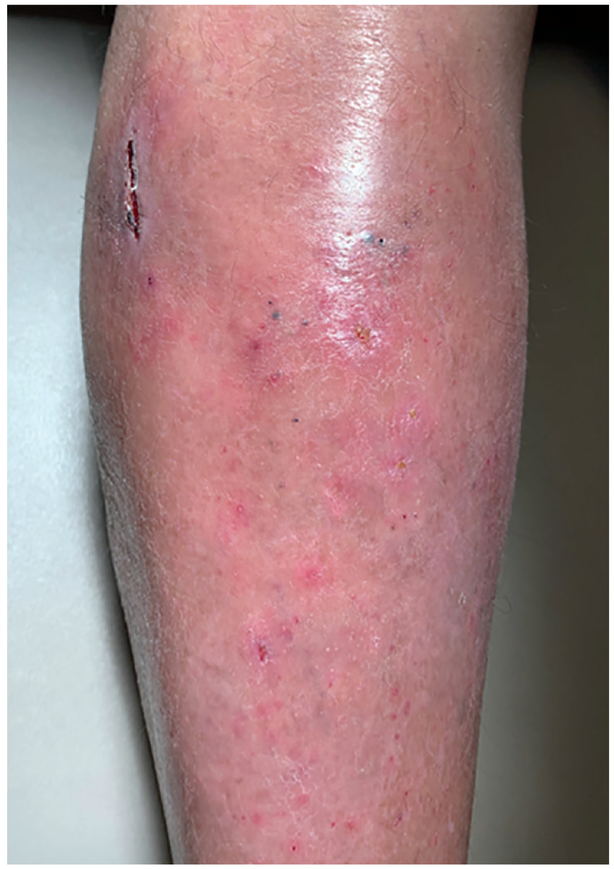
The patient had been on adalimumab for treatment of his hidradenitis suppurativa, which was held due to concern for infection, and he was started on doxycycline and cefadroxil. Over the next two weeks, these lesions enlarged and became increasingly painful. He was admitted to another facility for six days for intravenous antibiotics. Punch biopsy revealed acute and chronic inflammation, however Grocott methenamine silver stain, acid-fast bacilli stain, and gram stains were negative. Bacterial and fungal cultures had not yielded a causative organism by the time of discharge. He was discharged on trimethoprim-sulfamethoxazole, cefdinir, and voriconazole.

After discharge, he again had worsening of his lower extremity lesions. He returned to Dermatology for repeat punch biopsy. Shortly thereafter, his skin lesions became more erythematous and had started draining purulent material. He was transferred to the emergency department for suspected cellulitis. At this time, he had undergone two separate biopsies and two bacterial and fungal cultures without clear etiology of his lower extremity lesions. He had received extensive antibacterial and antifungal treatment, both outpatient and inpatient without improvement. Repeat punch biopsy resulted and was notable for abscess with neutrophilic and granulomatous dermal and subcutaneous acute and chronic inflammation. In the setting of multiple negative cultures, this pathology is suggestive of pyoderma gangrenosum. He was started on therapy for PG with prednisone 60 mg daily. He followed up outpatient three weeks later with remarkable improvement in the size and erythema of his lower extremity lesions.

Patient's right lower extremity during his hospitalization.



Patient's right lower extremity after three weeks of high-dose corticosteroids.



Discussion

Pyoderma gangrenosum is a rare, sterile neutrophilic dermatosis. Although classically associated with systemic inflammation, there have been cases documented in conjunction with hidradenitis suppurativa, another inflammatory dermatologic condition. Its characteristic biopsy findings include perifollicular inflammation and intradermal abscess formation with neutrophilic infiltrate. Treatment depends on severity, and can range from local to systemic corticosteroids or cyclosporine to surgical resection. The prognosis of PG is variable, with relapses occurring in up to 70% of patients treated with systemic corticosteroids and 66% of patients treated with cyclosporine. In some cases, it can be aggressive and life threatening. In patients with progressive, ulcerative, purulent skin lesions without clear underlying cause, clinicians should keep pyoderma gangrenosum on the differential.

References

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