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Case Report

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Pyoderma Gangrenosum with Renal Failure : A Case Report

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Abstract

Pyoderma gangrenosum (PG) is an ulcerative disease of the skin of unknown etiology. we report here an association with renal failure.

Keywords: Autoimmune; Chronic renal failure; Renal failure; Skin; Ulcerative disease

Introduction

Pyodermangangrenosum (PG) starts with folliculocentric pustules. The appearance of these pustules or nodules is followed by ulceration with sharply circumscribed, violaceous and necrotic pustules with raised edges. The disorder is frequently associated with various systemic diseases that include inflammatory bowel diseases, haematological disorders and rheumatological conditions. The cause remains unknown, but PG is considered to represent reactions against an antigen or an autoimmune reaction. The clinical concept of PG has broadened and four variants have been described: ulcerative, pustular, bullous and vegetative. We report here an unusual form of PG with ulceration, which was associated with chronic renal failure.

Case report

A 48-year-old woman presented with a painful erythematous lesion of 6 months in her arms and leg. She was referred for evaluation of tender bullae and nodules on her extremities that rapidly progressed to ulcers with purulent and necrotic base and irregular and undermined borders. Lesions had been present for the previous four months and the patient also complained of fever (38°C) and abdominal pain. Her medical history revealed a persistent anemia and renal failure. On physical examination, splenomegaly and pallor of ocular mucosa were detected (**Figure 1**).

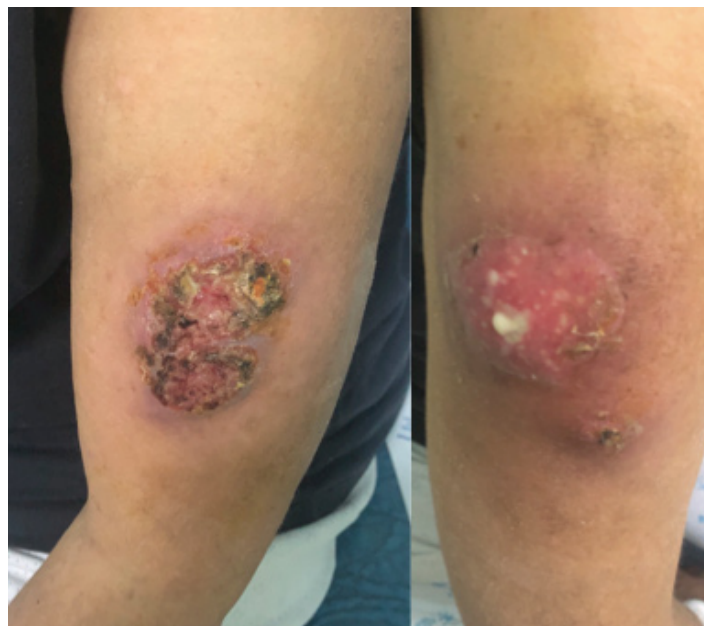


Figure 1: Ulcers with purulent surface.

At admission, the patient presented with several erythematous ulcers, from which bloody pus was oozing. The clinical course of each lesion was as follows: initially, the lesion consisted of a few pea-sized erythematous nodules, at the top of which bloody pus discharged through sinuses, after that, the lesions

becomes ulcerative. Histology showed spindle cells and small vessel proliferation with lymphocytic infiltration consistent with PG. Unfortunately, the patient died before the start of the treatment of renal failure.

Discussion

Pyodermagangrenosum (PG) is an ulcerative disease of the skin of unknown etiology. The association of PG with infection, autoimmune disease, inflammatory bowel disease, malignancy, and drugs suggests a hyper sensitivity reaction. The initial hypothesis, which has not been supported by experimental data, includes an immune-complex vasculitis, T-cell activation, and altered neutrophil function. It is currently thought that cytokine dysregulation accounts for most of the clinico pathological changes seen in PG [1,2].

The skin lesions of PG may be single or multiple and chronic or recurrent. The lesions occur most commonly on the leg, especially the peritibial area, but can develop in any part of the body. The initial lesion usually begins as follicular erythematous papules or pustules, or inflammatory nodules. The lesion then forms an ulcer with a purulent base and a ragged undermined, violaceous gunmetal color border, which spread peripherally [3]. Pyodermagangrenosum was first reported [4]. Four clinical and histological variants have been recognized: ulcerative, pustular, bullous and vegetative. Among these clinical variants, rates of progression and associated diseases, as well as histological changes, can vary considerably [5].

Biopsy of an early lesion of PG demonstrates a dermal neutrophilic abscess. Later stage lesions show epidermal necrosis and ulceration, superficial dermal edema and a dense mixed dermal infiltration that may extend to panniculitis. Histological examination of the advancing, inflamed border reveals dense perivascular lymphatic inflammation, which may at times be associated with vascular destruction. None of these histological features is pathognomonic for PG. No laboratory finding is diagnostic of PG and investigations should focus on identifying associated diseases, if any and excluding lesions that may simulate PG. The frequency of misdiagnosing PG is approximately 10% [6].

Differential diagnosis should include infections, neoplasias, vasculitis, ulcers secondary to peripheral venous or arterial insufficiency and factitious dermatitis. Bacterial cultures are required to rule out infectious processes [7]. PG should be approached as a multisystemic disease frequently associated with an underlying internal disorder. PG involvement is primarily cutaneous but with potential visceral extension.

Conclusion

The association between PG and renal failure is extremely rare. We reviewed the literature and we found few cases with acute renal failure. PG is a challenging medical condition to treat and an extensive work up is required to identify any potential underlying associated disease.

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