Letter

Pyoderma gangrenosum associated with ulcerative colitis and psoriasis

To the editor: Pyoderma gangrenosum (PG) is an idiopathic inflammatory disease of unknown etiology, frequently associated with underlying systemic conditions such as inflammatory bowel disease (IBD) including ulcerative colitis (UC) and Crohn's disease, rheumatologic disease or malignancy.[1] PG associated with UC and psoriasis in the same patient is rare. Here we report a case simultaneously incurring with three entities.

A 46-year-old man developed pruritic and erythematous plaques with silvery white scales on his elbows and knees 30 years ago. He was diagnosed to suffer from psoriasis and received topical treatments only. His skin eruptions fluctuated during the years without further involvement of other areas and without joints pain (Figure 1A). About 10 years ago, he had symptoms of abdominal pain, diarrhea and bloody stool, and was diagnosed as ulcerative colitis via colonoscopy. These symptoms recovered after unspecified treatments. Recently, he developed abdominal pain and diarrhea with bloody stool over 10 episodes daily. Two days after the onset of diarrhea, a rapidly enlarging erythematous papule developed on his right lower limb. The lesions quickly developed and enlarged into ulcer with elevated edges (Figure 1B). The ulcer was 11 cm× 9 cm in diameter with severe tenderness and purplish in color. Subsequently five new ulcers developed on trunk. The patient has a family history of psoriasis, psoriatic members were his mother and four siblings. His white blood cell count was 15.16×10^9/L and he had positive test of occult blood. Histopathology of the ulcer showed diffuse infiltration of neutrophils and fibrinoid necrosis of small vessels in dermis and subcutaneous peripheral to the ulcer base (Figure 1C). The diagnoses of concurrent PG, UC and psoriasis were made.

The patient was treated with intravenous methylprednisolone 40 mg/d, oral tripterygium and Qingdaisan enema (Chinese herbal medicine to treat UC). Ulcers were treated with topical antibiotic and wet dressing. After 17 days, small ulcers on the abdominal completely resolved. The large ulcer decreased in size with reduced pain. The abdominal pain and the frequency of diarrhea were significantly reduced. At 2 month-follow-up, ulcer on his right lower leg was improved significantly and the dosage of methylprednisolone was reduced gradually.

PG commonly associated with a variety of chronic diseases. IBD is the most common systemic illness associated with PG and the rate is approximately 30%.[2] For most patients, symptoms of UC preceded that of PG, and exacerbations of the UC frequently correlate with worsening of the skin condition. However, PG is not closely related to the activity of UC and may persist long while bowel disease is quiescent.[1] In this case, UC occurred first, and PG occurred when UC relapsed, both UC and PG improved on IV steroid. Phan et al[3] considered that PG associated with psoriasis due to the same histocompatibility antigen. Studies have confirmed the epidemiological, pathogenic and genetic association with IBD and psoriasis.[4] Cohen et al[5] conducted a case-control study and noted the association between psoriasis and IBD. Concurrent occurrence of PG, UC and psoriasis in the same patient is rare. These three conditions may share common pathways in genetics and pathogenesis.

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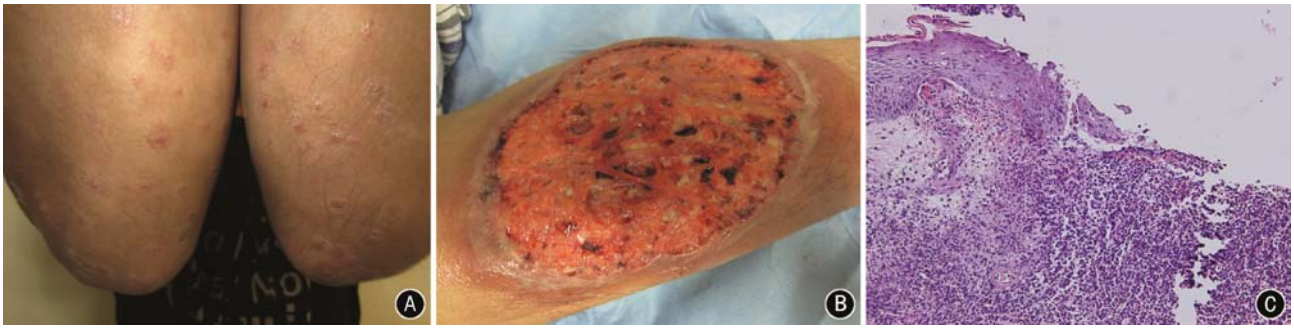

Figure 1. Clinical manifestation and pathological findings of the patient **A:** Elbows showed well demarcated erythematous plaques with silvery white scales. **B:** a large undermined ulcer with pustular discharge and elevated edges on the inner side of the right lower limb. **C:** Ulceration with diffuse infiltration of neutrophils (Hematoxylin-eosin staining, original magnification ×200).