

CASE REPORT

Ulcerative colitis presenting as leukocytoclastic vasculitis of skin

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Abstract

A number of cutaneous changes are known to occur in the course of inflammatory bowel diseases (IBD), including pyoderma gangrenosum, erythema nodosum, perianal disease, erythematous eruptions, urticaria, and purpura. However, occurrence of skin manifestations prior to the development of ulcerative colitis is a rare occasion. Here, we report a case of ulcerative colitis associated with leukocytoclastic vasculitis in which the intestinal symptoms became overt 8 mo after the development of skin lesions.

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Key words: Leukocytoclastic vasculitis; Ulcerative colitis; Skin; Extra-intestinal; Primary sclerosing cholangitis

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INTRODUCTION

Leukocytoclastic vasculitis is characterized by neutrophilic invasion and fibrinoid necrosis along with endothelial

enlargement in postcapillary venules^[1]. It is a syndrome in which patients most commonly present with palpable purpura on lower extremities and ankles.

Inflammatory bowel disease (IBD) can be associated with skin manifestations^[2]. Association between leukocytoclastic vasculitis and ulcerative colitis is uncommon and in most cases cutaneous leukocytoclastic vasculitis precedes the intestinal symptoms^[3]. Here, we present a case diagnosed with leukocytoclastic vasculitis 8 mo before the development of ulcerative colitis.

CASE REPORT

A 20-year-old female had a history of itching in arms and legs which began in February 2005. She had no fever, diarrhea, weight loss, hematuria, vision problems, or headache. Anti-allergic medications did not show any favorable effects on the symptoms. Meanwhile, multiple reddish-brown macular lesions developed on her heels spreading upwards to legs and buttocks. She was treated with oral prednisolone at a dose of 20 mg/d. Although old lesions seemed to subside following treatment, new lesions appeared on the back, neck, and arms. Light brown macular lesions united to form plaque-like non-blanching lesions with erythema at the center. Skin biopsy was consistent with leukocytoclastic vasculitis. Figure 1A and B demonstrate the histologic characteristics of the skin biopsy specimen. Although, the dose of prednisolone was increased to 40 mg/d, she did not respond to it, thus, it was discontinued.

She was admitted to our clinic with the complaint of bloody diarrhea in September 2005, eight months after the first appearance of skin lesions. She reported that she passed bloody stool containing mucus, 8-10 times a day. Apart from the scars of old lesions and new light-brown macular lesions around the ankles, physical examination yielded normal results. Results of the laboratory investigations included the followings: 9.870/mm³ white blood cells, 10.6 g/dL hemoglobin, 72 fL MCV, 409.800/mm³ platelets. Peripheral blood smear showed hypochromia, microcytosis and anisocytosis, 29 mm/h of erythrocyte sedimentation rate, 34 C-reactive proteins, 75 U/L ALT (normal: 0-50 U/L), 64 U/L AST (normal: 0-40 U/L), 159 U/L ALP (normal: 40-150 U/L), 272 U/L GGT (normal: 5-64 U/L), and 0.81 mg/dL total bilirubin (normal: 0.2-1.2 mg/dL). Urine analysis was normal. Blood fasting glucose, urea, creatinine, total protein, albumin levels and electrolyte (albumin, sodium, potassium, chloride, and calcium) concentration were within

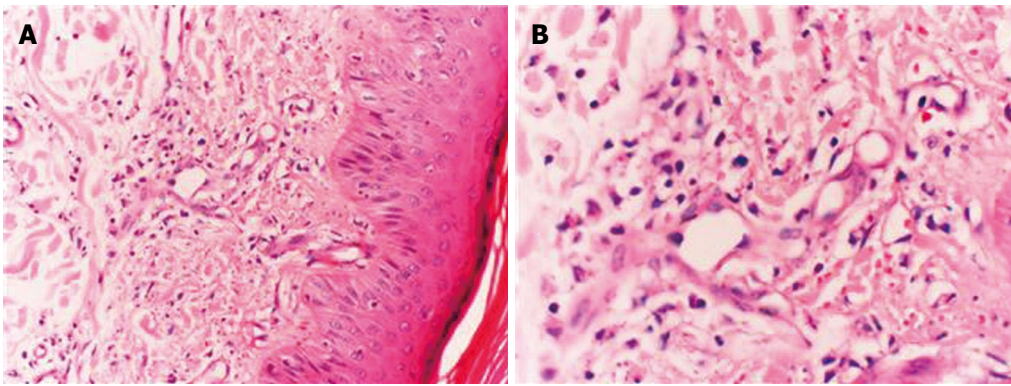


Figure 1 Skin biopsy specimen (HE, $\times 200$) showing polymorphonuclear cells and lymphocyte infiltration in and around the vessels of dermis beneath the multilayered keratinized squamous epithelium with some nuclear debris in the interstitium (A) and fibrin deposits in the vessel wall and nuclear debris (B).



Figure 2 Magnetic resonance cholangiopancreatography demonstrating ductal irregularities and beading appearance in the distal branches of the right and left hepatic canals.

normal limits. HBsAg (-), anti-HCV (-), anti-HIV (-), thyroid function tests, anti-TPO antibody, and anti-TG antibody were normal. Other selected laboratory tests showed serum folic acid of 4.82 ng/mL (normal > 3.00 ng/mL), vitamin B₁₂ of 226 pg/mL (normal: 160-980 pg/mL), ferritin of 3.3 ng/mL (normal: 5-148 ng/mL), serum iron of 6 g/dL (normal: 40-170 g/dL), and serum iron binding capacity of 470 g/dL (normal: 250-425 g/dL).

Abdominal ultrasonography revealed a mild edematous appearance in intestinal walls with no other abnormalities. Colonoscopic examination of the terminal ileum revealed a normal mucosa and lumen. The ileocecal valve appeared to be normal. However, mucosa of the entire colon was diffusely hyperemic and edematous with disappearance of the submucosal vascular network, and scattered shallow ulcerations. Histopathological examination of colonic specimen showed chronic mucosal inflammation with cryptic abscesses and distortion, suggestive of ulcerative colitis. Treatment with mesalazine (5-ASA) at a dose of 2 g/d was commenced and the patient was asked to visit one month later.

One month later, her bloody diarrhea and skin lesions disappeared and she passed formed stools once a day. However, liver function tests remained elevated (67 U/L AST, 92 U/L ALT, 165 U/L ALP, and 224 U/L GGT). Thus, quantitative serum immunoglobulin tests were as follows: ANA (-), anti-ds DNA (-), AMA (-), ASMA (-), anti LKM-1 (-), SLA/LP M2 (-), p-ANCA (+), 1.33 g/L C₃ (normal: 0.9-1.8 g/L), 0.15 g/L C₄ (normal: 0.1-0.4 g/L),

19.10 g/L IgG (normal: 7-16 g/L), 1.56 g/L IgM (normal: 0.4-2.3 g/L), and 3.01 g/L IgA (normal: 0.7-4 g/L).

Since serum ALP and GGT values were high and p-ANCA was positive, a magnetic resonance cholangiopancreatography (MRCP) was performed with the suspicion of primary sclerosing cholangitis (PSC). MRCP revealed ductal irregularities at distal branches of the right and left hepatic canals (Figure 2). Thus, ursodeoxycholic acid (UDCA) was started at a dose of 20 mg/kg, once a day, with a presumptive diagnosis of PSC. Following the treatment, her liver function tests returned to normal within two months. She was still well with oral 5-ASA and UDCA treatment at the time when we wrote this paper.

DISCUSSION

Various skin findings can accompany inflammatory bowel disorders^[2]. Skin manifestations occur in about 15% of patients with inflammatory bowel disorders^[4]. Most frequently accompanying skin manifestations are pyoderma gangrenosum and erythema nodosum, while necrotizing vasculitis, cutaneous polyarteritis nodosa and granulomatous perivasculitis are less frequently seen^[5-8]. Although the etiopathogenesis of extra-intestinal manifestations is not clear, a partial defect of immunity common to the skin and intestines has been suggested^[5].

Leukocytoclastic vasculitis is a disorder characterized by neutrophilic infiltration and nuclear debris in postcapillary venules^[1,9]. It is believed to be an immune-complex disorder triggered by various drugs, infections, malignancies, and systemic and autoimmune disorders^[10-13]. Although it usually involves the skin, systemic manifestations such as fever, arthralgia, myalgia or asthenia may also develop^[2]. Leukocytoclastic vasculitis is less frequently seen in patients with ulcerative colitis as compared to other skin manifestations^[14-18]. Clinically, it is generally synchronous with ulcerative colitis. Three previous ulcerative colitis cases who presented leukocytoclastic vasculitis before onset of the intestinal disease have been reported^[3,15]. As reported by Newton *et al*^[15], vasculitic symptoms appear 1 to 6 mo before the onset of intestinal symptoms. Iannone *et al*^[3] reported another case whose intestinal disease occurred 2 years after appearance of vasculitic skin lesions. In our case, leukocytoclastic vasculitis developed 8 mo before the appearance of intestinal symptoms.

One possible explanation of the association between these two disorders can be that the pathogenesis of

both is based on immune mechanisms and deposition of immune complexes in the vascular wall and intestinal mucosa for leukocytoclastic vasculitis and ulcerative colitis, respectively^[19]. Another possible explanation might be that IBD is a systemic disorder involving different tissues (skin, joints, intestine) at different episodes^[3].

Skin lesions of leukocytoclastic vasculitis can be treated with corticosteroids, dapsone, colchicine, or immunosuppressive agents^[1]. The treatment can be directed to the underlying cause (i.e., drugs, infections, malignancies, autoimmune diseases), if it is present. As previously mentioned, cases of leukocytoclastic vasculitis accompanying ulcerative colitis can be effectively treated with colchicine and sulfasalazine. In our case, both intestinal symptoms and skin lesions were successfully treated with 5-ASA.

The other diagnosis of our patient was PSC. It was reported that the prevalence of PSC in patients with ulcerative colitis is 5.5%^[20]. ANCA positivity in patients with PSC is 56%-88%. Patients with PSC can be asymptomatic (25%-45%) at the time of diagnosis^[21]. In our case, it is possible that PSC developed synchronously with leukocytoclastic vasculitis. Not any case in the literature presented PSC along with leukocytoclastic vasculitis.

In conclusion, IBD should be kept in mind as a cause of leukocytoclastic vasculitis, although it is a rare occasion. A careful follow-up of such cases may improve both vasculitis and IBD.

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