Leukocytoclastic vasculitis and gastric adenocarcinoma

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ABSTRACT

Background: Cutaneous vasculitis has been mainly associated with hematologic cancer. The association of solid neoplasms with cutaneous paraneoplastic vasculitis is rare. We report a case of cutaneous leucocytoclastic vasculitis that revealed a gastric adenocarcinoma.

Case report: A 72-year-old man presented with an acute diffuse polymorphic eruption, with erythematous, vesicular, and necrotic lesions predominating on the lower limbs, which had developed within the past 8 days. The medical history revealed abdominal pain and weight loss over the previous 6 months. A skin biopsy noted typical leucocytoclastic vasculitis. A workup including GI tract investigations revealed an antral adenocarcinoma. Complete excision of the gastric tumor was followed by resolution of the skin lesions. No tumor recurrence or cutaneous vasculitis was noted during 2 years of follow-up.

Conclusion: To our knowledge, the association of leucocytoclastic vasculitis with gastric cancer has never been reported previously. The failure of vasculitis to respond to conventional therapy should suggest an underlying malignancy.

KEY WORDS

Leucocytoclastic vasculitis, gastric adenocarcinoma, paraneoplastic

Introduction

Cutaneous vasculitis can be the consequence of infections, hypersensitivity, rheumatic and/or autoimmune diseases, or drugs (1). Vasculitis can also occur during the course of or prior to malignancies, most often hematologic rather than solid tumors (3). They represent less than 5% of all vasculitides (2). Vasculitides associated with malignancy are mainly cutaneous leukocytoclastic vasculitis (CLV), polyarteritis nodosa, Churg-Strauss syndrome (CSS), microscopic polyangiitis, Wegener's granulomatosis, and Henoch-Schönlein purpura (HCP) (1).

We report a case of CLV that revealed a gastric adenocarcinoma and review the clinical and histological characteristics of such an association.

Case Report

A 72-year-old man was referred to the Dermatology Department for an acute profuse polymorphic cutaneous eruption that developed over 8 days. Medical history revealed abdominal

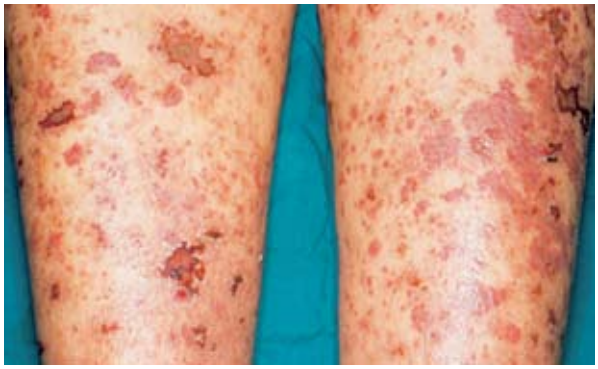

Figure 1. Erythematous, purpuric, and ulcerated lesions predominating on lower limbs.

pain and an unspecified amount of weight loss over the previous 6 months. No apparent previous infection or medication was noted. On physical examination, the patient presented with a diffuse polymorphic eruption predominating on the lower limbs, with erythematous, vesicular, and necrotic lesions associated with papules and pustules that were sometimes annular (Fig. 1). The patient was otherwise well with no fever or systemic symptoms.

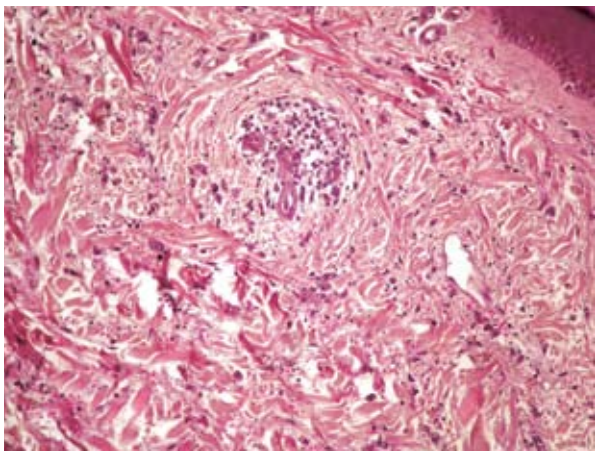

Figure 2. Inflammatory infiltrate predominating around capillaries and post-capillary small venula, neutrophil infiltration of the vessel wall and neutrophilic degeneration (leukocytoclasis) with formation of nuclear dust.

A skin biopsy of an erythematous bullous lesion showed typical leucocytoclastic vasculitis (Fig. 2). The erythrocyte sedimentation rate was 25 mm/hr. Plasma protein electrophoresis noted hypoalbuminemia at 22.8 g/l and hypogammaglobulinemia at 9 g/l. A blood cell count showed no abnormalities. Liver function tests, urea, creatinine, and urinalysis were within normal ranges. Screening for hepatitis B and C infection was negative. Antinuclear antibodies and antineutrophil cytoplasmic antibodies (ANCA) were not detected. GI tract investigations including upper gastrointestinal tract endoscopy revealed an antral adenocarcinoma. Complete excision of the gastric tumor was followed by resolution of the skin lesions. No tumor recurrence or cutaneous vasculitis was noted during 2 years of follow-up.

Discussion

Cutaneous vasculitis is the most commonly observed paraneoplastic vasculitis. It constitutes 30 to 40% of all paraneoplastic vasculitis (1). Most cases of cutaneous paraneoplastic vasculitis are associated with hematologic malignancies (90%), mainly lymphoproliferative disorders (2). The first case of vasculitis in a patient with a solid tumor (i.e., renal cell carcinoma) was reported by Torrik and Berntzen in 1968 (3). The most frequently observed solid neoplasms in patients with vasculitis are lung (small and non-small cell), prostate (adenocarcinoma), colon (adenocarcinoma), renal (renal cell carcinoma), breast (ductal carcinoma), head and neck (epidermoid carcinoma), and endometrial cancer (3, 4). Gastro-intestinal neoplasms have been rarely associated with paraneoplastic vasculitis (2, 5).

Cutaneous manifestations of paraneoplastic vasculitis are polymorphic and nonspecific, involving papules, nodules, bullae, purpura, ulcerations, and/or necrotic lesions. Articular or other systemic manifestations are more rarely observed.

Histologically, when a vasculitis is associated with a solid tumor it is usually a small-vessel vasculitis, predominantly both cutaneous and leucocytoclastic as in our patient. Thus, leucocytoclastic vasculitis is the most common reported form associated with neoplasm (45%), followed by polyarteritis nodosa (36.7%) (2). A review of seven cases of gastric cancers has shown an association with HSP in one case (2), polyarteritis nodosa and ANCA-vasculitis in four cases (2), and giant cell arteritis in two cases (2). To our knowledge, our case seems to be the first in which LCV is associated with gastric cancer.

LCV usually appears after the diagnosis of the tumor, but it can be the presenting symptom of the neoplasm as in our patient (6). Usually, paraneoplastic vasculitis fails to respond to treatment with prednisone and improves with effective treatment of the cancer. In addition, recurrence of LCV often occurs with progression or metastases of cancer (3).

The physiopathology of LCV is still not well known. As the body tries to rid itself of neoplastic cells, it makes an increased number of antibodies that circulate in the bloodstream. Extra proteins in the blood make it more viscous and increase

sludging. These factors may result in vasculitis. Several immunopathological mechanisms have been evoked, such as an abnormal production of pro-inflammatory cytokines by tumor cells, a decreased immune complex clearance, abnormal production of antibodies and tumor neoantigens that lead to the formation of immune complexes, and deposit within blood-vessel walls. Similarities between tumor antigens and endothelial cell antigens have been also suggested (3).

Paraneoplastic vasculitis does not necessarily have a poor prognosis. Effective treatment of the cancer enhances the likelihood of improvement in vasculitis. Also, in most cases, death occurs due to tumor progression rather than vascular complications (4, 6).

Conclusion

Clinicians should be aware of the possible association of cutaneous vasculitis with malignancies, especially when the vasculitis becomes chronic, treatment is no longer effective, or the disease cannot be controlled.

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