

Images in Allergy

Kaposi's Sarcoma in a Patient with Eosinophilic Granulomatosis with Polyangiitis While Taking Mycophenolate Mofetil

Alvise Berti, MD^{a,b}, Raffaella Scotti, MD^a, Nathalie Rizzo, MD^c, Maria Grazia Sabbadini, MD^{a,b}, and Moreno Tresoldi, MD^a
 Milan, Italy

A 67-year-old man with an 11-month history of ANCA-negative eosinophilic granulomatosis with polyangiitis (EPGA) was evaluated in our department for weight loss of 5 kg over 2 months and progressive fatigue. He had a 20-year history of asthma, for which he was taking maintenance therapy with an inhaled corticosteroid twice daily. He later developed glomerulonephritis, peripheral eosinophilia, and sinusitis, and a histological sample of a nasal polyp confirmed the diagnosis of EPGA (small-sized vessel inflammatory arteriopathy with fibrinoid necrosis, granulomata, and perivascular eosinophilic infiltration). The patient achieved clinical remission after high doses of glucocorticoids and started daily oral prednisone 5 mg and mycophenolate mofetil (MMF) 2 g as a maintenance regimen. MMF was chosen because of its low renal toxicity, given the patient's renal failure secondary to glomerulonephritis (creatinine clearance 17.6 mL/min).

At clinical examination, multiple cutaneous lesions on the neck and limbs' extremities were observed. He reported that a sore and purplish skin lesion on the right leg appeared 6 weeks before admission (Figure 1, A) and then a few of similar, fast-growing lesions came up (Figure 1, B). He was afebrile, hemodynamically stable, and maintained a room air oxygen saturation of 94%. Superficial lymph nodes were not palpable.

Blood tests revealed normal complete blood count, inflammatory indexes, and biochemistry. Percutaneous tissue biopsy was performed, and histologic analysis revealed spindle cell proliferation suggestive of Kaposi's sarcoma (KS) (Figure 2, A-D). Human Herpesvirus-8 (HHV-8) DNA was

detected in both peripheral blood (770 copies/mL) and histological samples (157,400 copies/mL), confirming the diagnosis.

Because antibody testing might result negative given the immunosuppression, HIV was assessed by polymerase chain reaction and was negative. To assess the patient's immunocompetence status, complete blood count with differential and subpopulation of peripheral blood's lymphocyte CD3 (73.9% of mononuclear cells; 2069 cells/mm³), CD4 (32.8% of mononuclear cells; 918 cells/mm³), and CD8 (38.9% of mononuclear cells; 1089 cells/mm³) were measured and were all within the normal range. Serum electrophoresis with quantification of specific immunoglobulin classes was also done and all values were above the lower range limit, with a mild increase of alpha-1 (5.3%; 3.73 g/L) and alpha-2 globulins' components (12.2%; 8.59 g/L), as a consequence of the inflammatory state.

Visceral involvement was ruled out by means of esophagogastroduodenoscopy and colonoscopy; computer tomography of the chest and abdomen was normal. MMF therapy was discontinued, followed by complete regression of cutaneous lesions and disappearance of HHV-8 viral load from peripheral blood after 8 months from the cessation of treatment.

A 24-month follow-up did not show any recurrence of KS, and 5 mg oral prednisone alone was able to maintain his vasculitis in clinical remission.

EPGA, formerly known as Churg-Strauss syndrome, is a rare eosinophil-associated vasculitis, which predominantly affects medium- and small-sized arteries and veins.¹ Glucocorticoids are usually the first line of treatment for EPGA, whereas cytotoxic drugs, mostly cyclophosphamide, are added in approximately 20% of cases. Maintenance therapy with azathioprine or methotrexate is needed to avoid relapses.¹ Second-line treatment with MMF is considered in refractory disease or for those patients who have contraindications or experienced side effects with the first-line treatment.²⁻⁵

We reported here a patient affected by EPGA who developed KS while on MMF treatment. KS in patients with autoimmune diseases is rare, and, to our knowledge, there have not been other reports of KS in patients affected by EPGA.⁶

Clinicians should be aware of KS' clinical presentation and of its association with immunosuppressive therapy in autoimmune diseases. When visceral involvement is lacking, reduction of immunosuppression may lead to regression or complete resolution of this tumor, as in the case described.

^aDepartment of Allergy and Clinical Immunology, IRCCS San Raffaele Scientific Institute, via Olgettina 60, 20132, Milan, Italy

^bVita-Salute San Raffaele University Medical School, via Olgettina 58, 20132, Milan, Italy

^cDepartment of Pathology, IRCCS San Raffaele Scientific Institute, via Olgettina 60, 20132, Milan, Italy

No funding was received for this work.

Conflicts of interest: The authors declare that they have no relevant conflicts.

Received for publication August 24, 2014; revised November 7, 2014; accepted for publication November 12, 2014.

Available online ■■

Corresponding author: Alvise Berti, MD, Department of Allergy and Clinical Immunology, Vita-Salute San Raffaele University and IRCCS San Raffaele Scientific Institute, Via Olgettina 60, Milan 20132, Italy. E-mail: berti.alvise@hsr.it. 2213-2198

© 2015 American Academy of Allergy, Asthma & Immunology

<http://dx.doi.org/10.1016/j.jaip.2014.11.023>

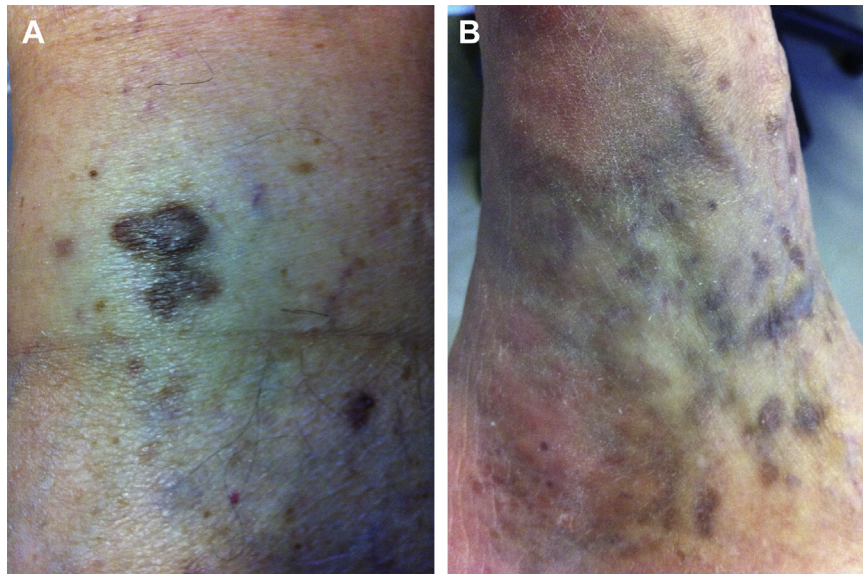


FIGURE 1. (A) The first Kaposi's sarcoma lesion on the right leg of the patient described, affected by EPGA and treated with MMF as a maintenance regimen. (B) Kaposi's sarcoma lesions on the patient's right ankle.

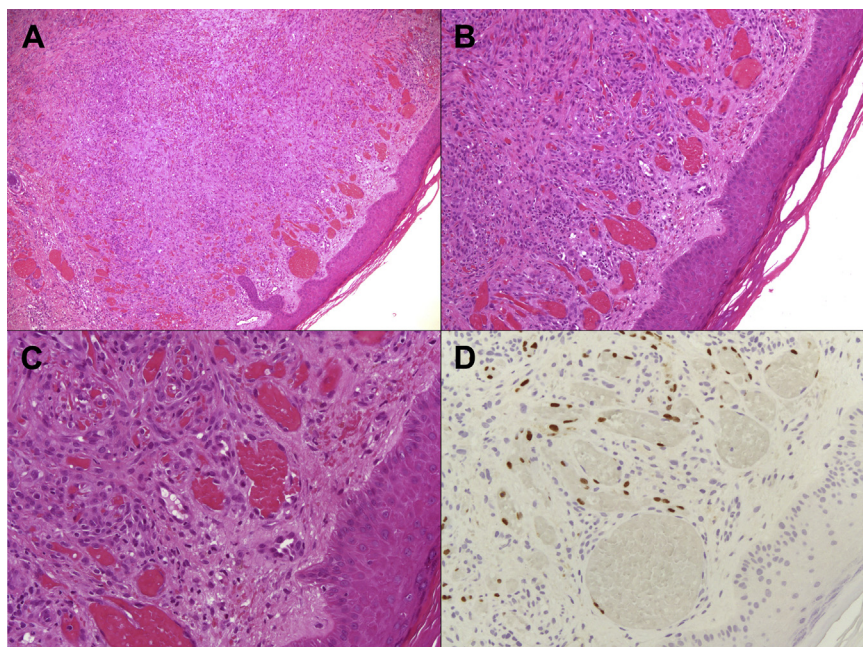


FIGURE 2. (A) Nodular cutaneous lesion of Kaposi's sarcoma (hematoxylin and eosin stain; 50 $\times$). (B, C) Lesion is composed of irregular fascicles of atypical spindle cells forming cleft spaces (often containing erythrocytes) around vessels (hematoxylin and eosin stain; 100 $\times$ and 200 $\times$). (D) High-power views of HHV-8 immunohistochemical staining of atypical endothelial cells (200 $\times$).

REFERENCES

1. Vaglio A, Buzio C, Zwerina J. Eosinophilic granulomatosis with polyangiitis (Churg-Strauss): state of the art. *Allergy* 2013;68:261-73.
2. Demircin G, Baysun S, Bülbül M, Erdoğan O, Oner A. Mycophenolate mofetil therapy in a child with Churg-Strauss syndrome. *Pediatr Int* 2010;52:e164-6.
3. Samson M, Puéchal X, Devilliers H, Ribi C, Cohen P, Stern M, et al. Long-term outcomes of 118 patients with eosinophilic granulomatosis with polyangiitis (Churg-Strauss syndrome) enrolled in two prospective trials. *J Autoimmun* 2013; 43:60-9.
4. Assaf C, Mewis G, Orfanos CE, Geilen CC. Churg-Strauss syndrome: successful treatment with mycophenolate mofetil. *Br J Dermatol* 2004;150:598.
5. Lau EM, Cooper W, Bye PT, Yan K. Difficult asthma and Churg-Strauss-like syndrome: a cautionary tale. *Respirology* 2011;16:180-1.
6. Louthrenoo W, Kasitanon N, Mahanuphab P, Bhoopat L, Thongprasert S. Kaposi's sarcoma in rheumatic diseases. *Semin Arthritis Rheum* 2003;32:326-33.