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Letter to the Editor

Digital ischemic necrosis with cryoglobulinemia associated with hepatitis B infection

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A 77-year-old male patient presented with a one week history of general worsening condition, with mental status and respiratory insufficiency. He was therefore admitted to the Intensive Care Unit. His past medical history was unremarkable except for hypertension. He had cyanosis of the nose, hands and feet with purple to black discoloration (Fig. 1). Initial laboratory study results were notable for leukocytes: 24,000/mm^3, neutrophils: 85%, hemoglobin: 8.6 g/dL, thrombocytes: 120,000/mm^3, erythrocyte sedimentation rate (ESR): 110 mm/h, C-reactive protein (CRP): 64 mg/L, aspartate aminotransferase: 83 U/L, alanine aminotransferase: 125 U/L, BUN: 110 mg/dL, creatinine: 3.4 mg/dL. In the differential diagnosis, sepsis with multiorgan failure and coronary artery disease with acute heart failure were considered.

Myeloproliferative diseases, autoimmune diseases, and HCV infection were ruled out by a wide clinico-serological work-up. ANA, P-ANCA, C-ANCA, anti-dsDNA, anti-Sm, anti-RNP, and rheumatoid factor were found to be negative.

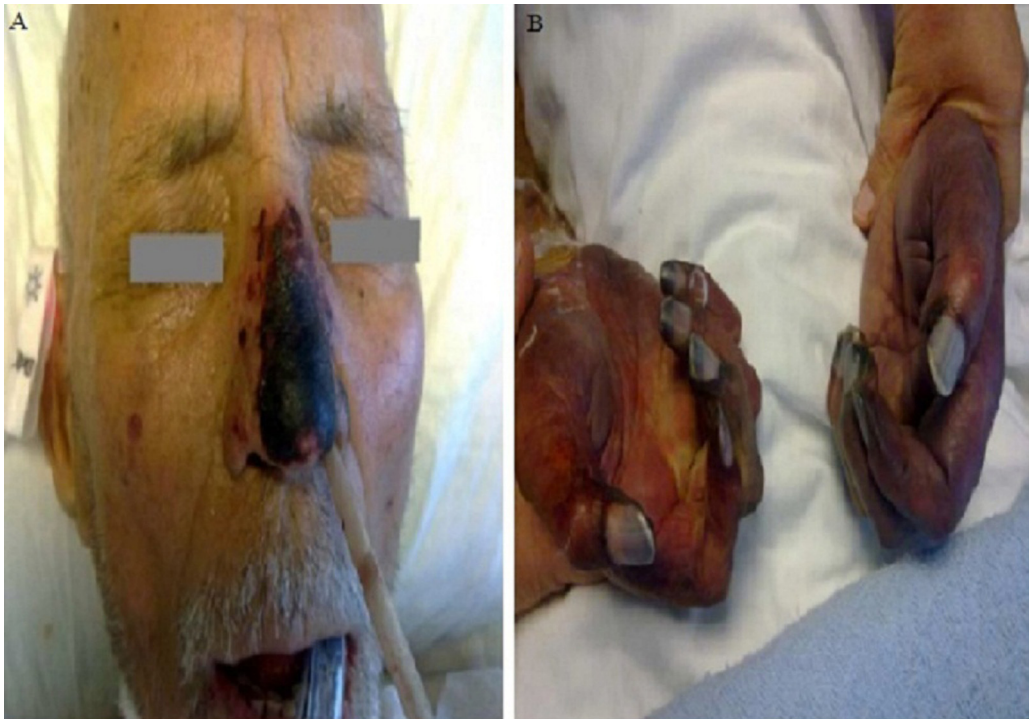

Fig. 1 – Clinical appearance of acrocyanosis on nose and hands with purple to black discoloration.

Hepatitis B surface antigen (HBsAg) was positive, and Hepatitis B ''e'' antigen (HBeAg) was negative. The hepatitis B viral load was positive at 3300 IU/ml.

Cryoglobulins were positive in serum, which were thought to be the cause of the clinical picture and acute renal failure. The cryoprecipitate was characterized by immunoelectrophoresis, which showed that the proteins contained polyclonal immunoglobulin IgG, while there was no monoclonal protein. The final diagnosis was made as mixed type cryoglobulinemia with acrocyanosis and acute digital ischemic necrosis associated with hepatitis-B. Despite aggressive, supportive antimicrobials and lamivudine treatment, the patient's clinical course deteriorated, and the patient died of a myocardial infarction on hospital day three.

The acute onset of acrocyanosis along with abnormal vital signs is a red flag symptom of an underlying, potentially life-threatening disease such as an embolic phenomenon or vasculitis.

Mixed cryoglobulinemia (MC), type II and type III, are defined as the presence of circulating cryoprecipitable immune complexes in the serum.[1,2] Rarely encountered in the clinical setting, its presentation is characterized by a classical clinical triad of purpura, weakness, and arthralgias.[1] Its true prevalence remains unknown, however MC is noted for variable organ involvement, including skin lesions (orthostatic purpura, ulcers), chronic hepatitis, membranoproliferative, glomerulonephritis, peripheral neuropathy, diffuse vasculitis, Raynaud's phenomenon, and less frequently, interstitial lung involvement and endocrine disorders.[1–3] High cryocrit level may cause ischemic cardiac or cerebrovascular disease.[4]

Although chronic HCV infection is known to be the most significant infection related to type II mixed cryoglobulinemia, a few reported cases have shown the significance of HBV infection in this condition.[1,2] In patients with comorbidities such as renal disease, liver failure, lymphoproliferative disease, and malignancies, overall prognosis is usually worse.

The present case underlines the importance of recognizing cryoglobulinemia. In patients with hepatitis B infection, cryoglobulinemia is a rare but crucial extrahepatic manifestation that may be related to high morbidity and mortality.

Conflicts of interest

The authors have none to declare.

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Ferhat Arslan
Department of Infectious Diseases and Clinical Microbiology, Istanbul Medipol University Hospital, Istanbul, Turkey

Ergenekon Karagöz*
Department of Infectious Diseases and Clinical Microbiology, GATA Haydarpasa Training Hospital, Istanbul, Turkey

Ali Mert
Department of Infectious Diseases and Clinical Microbiology, Istanbul Medipol University Hospital, Istanbul, Turkey

*Corresponding author.
E-mail address: ergenekonkaragoz@hotmail.com (E. Karagöz)

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