POEMS or Crow-Fukase syndrome is a rare plasma cell disease with multiorgan involvement, whose acronym refers to the presence of Polyneuropathy, Organomegaly, Endocrinopathy, M protein, Skin changes. The etiology of POEMS is still unknown, but increasing evidence points to a possible role of Vascular Endothelial Growth Factor (VEGF). Serum VEGF levels have repeatedly been found to correlate with the clinical course and response to therapy. Lacking specific tests or patognomonic signs, the diagnosis of POEMS syndrome is still based on the combination of clinical findings, although general consensus has still to be reached.

Additional diagnostic markers other than clinical are therefore warranted. We herein report a patient who, although presenting all the POEMS features, was eventually diagnosed with a different disease. VEGF serum levels were in normal range and remained low despite the worsening of the disease. A 64-year-old man came to our attention after 4 month history of progressive scleroderma-like skin thickening, hyperpigmentation at the four limbs, chest and face, hypertrichosis, fever, distal painful paraesthesias at lower limbs. There was a recent onset of type II diabetes. Physical examination revealed hepatomegaly, unsteady gait, absent deep tendon reflexes, distal sensory loss. Electrodiagnostic study showed evidence of demyelinating polyneuropathy, with slowing or absence of conduction velocities and prolonged distal latencies. Immunoelectrophoresis evidenced an IgG lambda monoclonal gammopathy (2.6 g/L). Scleroderma-specific autoantibodies were negative. Mild and transient blood eosinophilia (800/μL), moderate hyperglycemia, serum aldosteronemia, and hyperuricemia were present, which spontaneously resolved before any specific treatment. Bone marrow biopsy was normal, apart from a mild polyclonal plasmacytosis (plasma cells < 10%). Chest and abdominal CT scan confirmed hepatomegaly. Bone window CT images as well as whole-body PET scan were negative. The scleroderma-like skin, although already reported in POEMS syndrome, was eventually diagnosed with a different disease. VEGF serum levels were in normal range and remained low despite the worsening of the disease. A 64-year-old man came to our attention after 4 month history of progressive scleroderma-like skin thickening, hyperpigmentation at the four limbs, chest and face, hypertrichosis, fever, distal painful paraesthesias at lower limbs. There was a recent onset of type II diabetes. Physical examination revealed hepatomegaly, unsteady gait, absent deep tendon reflexes, distal sensory loss. Electrodiagnostic study showed evidence of demyelinating polyneuropathy, with slowing or absence of conduction velocities and prolonged distal latencies. Immunoelectrophoresis evidenced an IgG lambda monoclonal gammopathy (2.6 g/L). Scleroderma-specific autoantibodies were negative. Mild and transient blood eosinophilia (800/μL), moderate hyperglycemia, serum aldosteronemia, and hyperuricemia were present, which spontaneously resolved before any specific treatment. Bone marrow biopsy was normal, apart from a mild polyclonal plasmacytosis (plasma cells < 10%). Chest and abdominal CT scan confirmed hepatomegaly. Bone window CT images as well as whole-body PET scan were negative. The scleroderma-like skin, although already reported in POEMS syndrome, was eventually diagnosed with a different disease. VEGF serum levels were in normal range and remained low despite the worsening of the disease.

This behaviour was unusual for POEMS syndrome further supporting the possibility of a different diagnosis. Although a formal proof of the pathogenic role of VEGF in POEMS syndrome is still lacking, we previously described a correlation between high serum and peripheral nerve VEGF levels and clinical course as well as nerve damage in POEMS syndrome, suggesting not only a putative pathogenic, but also a diagnostic and prognostic role of VEGF. In this regard, it is worth mentioning the recent report by Badros et al. describing a patient with POEMS syndrome whose symptoms recovered following therapy with Bevacizumab, a monoclonal antibody to VEGF. We suggest that VEGF serum levels might be considered as an additional, supportive criterion for the diagnosis of POEMS syndrome, particularly when unusual clinical features are present.

References