TAFRO Syndrome – first case reported in Latin America

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Introduction: In the last years, 53 cases were published in the medical literature, primarily from Japan, reported patients who developed a clinical syndrome (TAFRO) characterized by thrombocytopenia, bone marrow fibrosis, fever, renal failure, anasarca, hepatosplenomegaly and lymphadenopathy. Histopathological analysis of involved lymph nodes revealed hyaline-vascular (HV) subtype of Castleman's disease (CD). To the best of our knowledge only 9 cases of this syndrome were described in Caucasian patients, our case is the only one in a patient with Ashkenazi jewish ancestry and the first one described in Latin America.**Case presentation:** A 61-year-old white woman with Ashkenazi jewish ancestry presented to our hospital with a history of nausea, vomiting and fever (38°C). At physical examination there was severe pitting edema in legs, ascites and pleural effusions. She had a splenomegaly and palpable axillary lymph nodes.Laboratory exams revealed hemoglobin 10.7 g/dl and thrombocytopenia ($118x10^9$/L). There was elevated C-reactive protein (CRP; 84.5 mg/L). She was negative serology. The serum level of IL-6 was significantly elevated at 75.9 pg/mL (reference range 0–7 pg/mL). The excisional axillar lymph node biopsy has shown histopathological pattern of HV-subtype of CD. HHV-8 was negative by immunohistochemical analysis. Bone marrow biopsy demonstrated an increased number of megakaryocytes with dysplastic features and grade 1 reticulin fibrosis. She was negative for JAK2V617F and CALR exon 9 mutations, and karyotype was diploid. The kidney biopsy showed signs of thrombotic microangiopathy. A PET-CT scan showed weak FDG uptake at bilateral cervical, axillary, mediastinal, and abdominal para-aortic, retrocural and iliac lymph nodes (maximum standard uptake value [SUV]=5.1 Seven days after hospital admission, patient developed worsening of anasarca and renal function and had to be transferred to the intensive care unit (ICU). She evolved with further progression of disease, requiring mechanical ventilation, vasopressor medications and continuous renal replacement therapy.On day 18 of hospital admission, a preliminary diagnosis of TAFRO syndrome was made. At that time point, hemoglobin was 8.3 g/dL, white blood cell count (WBC) was $17.11x10^9$/L and platelets were $21x10^9$/L. Creatinine was 2.14 mg/dl. CRP and IL-6 were elevated (231.2 mg/L and 722.6 pg/ml, respectively). Due to the critical condition of the patient she was started with methylprednisolone 1g/day for three consecutive days, and weekly tocilizumab (8 mg/kg/dose) and rituximab (375 mg/m^2/dose). One week after the therapy, she was weaned from ventilator support and discontinued vasopressor medications. During hospital admission the patient received 4 doses of tocilizumab and 4 doses of rituximab. A PET-CT scan after 1 month of therapy showed significant reduction in uptake in all involved lymph nodes. The patient is currently on outpatient treatment, and receives one dose of tocilizumab every 3 weeks and has already tapered steroids. She had complete resolution of anasarca, organomegaly, kidney function and her latest CBC showed normalization of hemoglobin (13 g/dL) and platelet counts ($204x10^9$/L). **Conclusion:** We herein describe a patient with a diagnosis of TAFRO syndrome who developed multi-organ failure and was successfully treated with steroids, tocilizumab and rituximab.