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Leishmaniasis disseminated infection in multiple myeloma: Cumulative immunosuppression in a patient pluri-relapsed and treated with high dose therapy and novel agents

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Introduction: Immune dysfunction is a biological and clinical feature of Multiple Myeloma (MM) patients. Defects of the immune system have been described including hypogammaglobulinemia, impaired lymphocyte function, steroid-related immunosuppression.

Materials and methods: We describe the occurrence of visceral leishmaniasis in an overtreated MM patient. A 68-year old Italian man was diagnosed with IgG-k MM in stage IA. He was initially treated with lenalidomide and dexamethasone according to EMN 441 protocol (four cycles). For recurrent disease a second-line therapy according to PAD regimen (four cycles) was administered, obtaining a very good partial response (VGPR). Tandem autologous haematopoietic stem cell transplantation (HSCT) was carried out obtaining a VGPR; maintenance therapy with low dose thalidomide (100 mg) was discontinued owing to severe bradycardia. Treatment with Len-Dex regimen then was delivered because of progressive disease. After 25 cycles of treatment the patient developed pancytopenia without fever, mild hepatosplenomegaly, with increasing monoclonal paraprotein, showing a relapse of MM.

Results: The bone marrow aspirate and biopsy showed monoclonal CD 138 positive k plasma cells and several amastigotes in the cytoplasm of macrophages consistent with visceral Leishmaniasis (VL) (Figure 1 and 2). Serological workup obtained a positive antibody titer for Leishmania species. Polymerase chain reaction (PCR) performed on the bone marrow demonstrated a sequence analysis positive for Leishmania Donovanii. After treatment with liposomal amphotericin B the bone marrow smear became negative.

Discussion: VL is an extremely rare example of opportunistic infection found in MM patients treated with new drugs. Here prolonged steroid therapy, high dose chemotherapy, tandem HSCT and the disease itself could lead to a cumulative immunosuppression. Bortezomib significantly decreases the number of CD4+ and CD8+ T cells. A careful investigation of opportunistic infections in MM patients should always be carried out. It would be desirable monitoring CD4 lymphocytes in peripheral blood as in HIV-positive patients.

Biography

Lorenza Torti has completed her PhD from Catholic University in Rome and Post-doctoral studies from Catholic University School of Medicine in Rome. She is MD at Clinical Hematology and Bone Marrow Transplantation Centre, Department of Hematology, Transfusion Medicine and Biotechnology, "Spirito Santo" Civic Hospital, Pescara, Italy. Her research activities and interests are biological and diagnostic aspects of chronic Philadelphia-negative; Myeloproliferative diseases like Myelofibrosis, Essential Thrombocythemia and Polycythemia; Familial and hereditary thrombocytosis and erythrocytosis; study of molecular involvement of oxygen sensing pathway in erythrocytosis; Study of endothelial progenitors in thrombotic disorders; infections in multiple myeloma and plasma cell disorders. She has published more than 15 papers in reputed journals and several abstracts in international Onco-hematologist conferences.

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