Bone marrow aspiration in a patient with systemic microsporidium

Ximena E. Gomez (1); Jorge J. Castillo (2); Marco A. Gomez (3)

1.- General Medicine, Japanese Peruvian Centennial Clinic, Lima, Perú.
2.- Division of Hematologic Malignancies, Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA, United States.
3.- Division of Hematology, Japanese Peruvian Centennial Clinic, Lima, Perú.

Corresponding author:
Ximena E. Gomez
ximenaelizabethgomez@gmail.com

A 34-year-old female presented with several weeks of fever, fatigue, weight loss, abdominal pain and hemoptysis. Physical exam revealed moderate pallor, pain on the right upper quadrant, mild dyspnea, conjunctival injection and hepatomegaly. The complete blood count showed anemia, mild leukocytosis, hypoalbuminemia, hypertransaminasemia, presence of nucleated red blood cells in peripheral blood, elevated creatinine and lactic dehydrogenase level of 12,643 IU/L (normal range: 105 - 333 IU/L). Serial radiographs of the thorax showed the appearance of bilateral parenchymal lesions. Abdominal ultrasound showed moderate hepatosplenomegaly. The presumptive diagnosis at admission was probable hematological malignancy associated with sepsis and multiorgan failure. A bone marrow aspirate was performed, which showed microsporidia within macrophages. HIV ELISA was reactive and confirmed by Western Blot. Her HIV viral load was 1,382,000 copies/ml. A peripheral blood smear was performed in which the presence of microsporidia was also observed (Figure A), as in the bone marrow (Figure B).

Microsporidia are spore-producing protozoa, which often cause illness in immunocompromised patients especially those infected by HIV and, less commonly, post-transplant patients. Because the infection associated with severe immunodeficiency, microsporidia infections usually occur in patients with defined AIDS, being infrequent as an initial manifestation of HIV infection[1]. Clinical manifestations are often watery diarrhea and colicky abdominal pain, systemic involvement being uncommon in immunocompetent individuals. Other manifestations such as cholangitis or acalculous cholecystitis; bronchiolitis, pneumonitis, sinusitis, nephritis, cystitis, prostatitis, hepatitis, peritonitis, chronic keratoconjunctivitis, encephalitis, nodular cutaneous lesions and myositis. Diagnosis is usually made by microscopically detecting microsporidial spores in infected secretions (mainly feces) or in tissue specimens[2]. However, in cases of multisystem involvement, these findings may be seen in the peripheral blood and bone marrow, the latter being extraordinarily uncommon and reported almost exclusively as a post-mortem finding.[3] It should be mentioned that the finding of microsporidium in bone marrow involves an infection of at least 3 to 4 months of evolution.[3] This condition should be considered in the differential diagnosis of sepsis and multiple organ failure in immunosuppressed patients.

The authors, of this case report, confirmed that patient consent has been signed and collected in accordance with the journal's patient consent policy.

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