Case Report

Febrile pancytopenia: Think about visceral leishmaniasis !

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We report the case of a 19-year-old patient from a consanguineous marriage, originally from Bizerte, with no particular medical history, who was admitted to hospital for a deteriorating general condition, persistent fever for 10 days, chills and night sweats. He was febrile at 40°C, tachycardic and displayed bilateral retroauricular and inguinal lymphadenopathies with splenomegaly. Pancytopenia was revealed with a Complete blood count (CBC) showing leukopenia (2860/mm³), neutropenia (1000/mm³), microcytic non-regenerative anemia [(hemoglobin (9.2 g/dL), mean corpuscular volume (72.3 fL), reticulocytes count (50,000/mm³)] and thrombocytopenia (67,000/mm³). Hepatocellular cytolysis and inflammatory syndrome were found, with respectively high transaminases, high C-reactive protein level (115 mg/L) and ferritin level (12982 µg/L). Fibrinogen was low with 1.67g/l.

A bone marrow aspiration was performed. A rich, polymorphic marrow with evidence of some hemophagocytosis (image 1) and numerous histiocytes with a «sea-blue» were found (image 2). The presence of *Leishmania* amastigote (3 to 5 µm) with round or oval nuclei and a punctate kinetoplast, in the macrophages or on extracellularly (image 3a, 3b) were observed. The diagnosis of visceral leishmaniasis complicated by macrophagic activation syndrome (H-score equal = 221) was retained. Macrophagic activation syndrome combines non-specific clinical signs (fever, deterioration in general condition, hepatosplenomegaly, lymphadenopathy) with suggestive laboratory findings (bi or pancytopenia, deterioration in liver function, coagulopathy, increased LDH, ferritin and triglycerides, haemophagocytosis) (1).

The patient was treated with amphotericin B at a dose of 3 mg/kg/day along with corticosteroid therapy. The clinical course was complicated by renal insufficiency due to drug toxicity, which was managed by hydration. Ultimately, the clinical and biological course was favorable.

Visceral leishmaniasis is a parasitic vector-borne disease caused by the protozoa of the genus *Leishmania*.It's a public health problem in Tunisia (2). The association of febrile pancytopenia and macrophagic activation syndrome should lead one to think of visceral leishmaniasis. Careful examination of the bone marrow smear by an experienced cytologist is necessary. As for the presence of histiocytes with a sea-blue appearance,there were insufficient clinical arguments to look for an overload disease. Early diagnosis of this association ensured early specific treatment to be started, thus improving the prognosis (3).

Keyword s : cytology, leishmaniasis,macrophagic activation syndrome

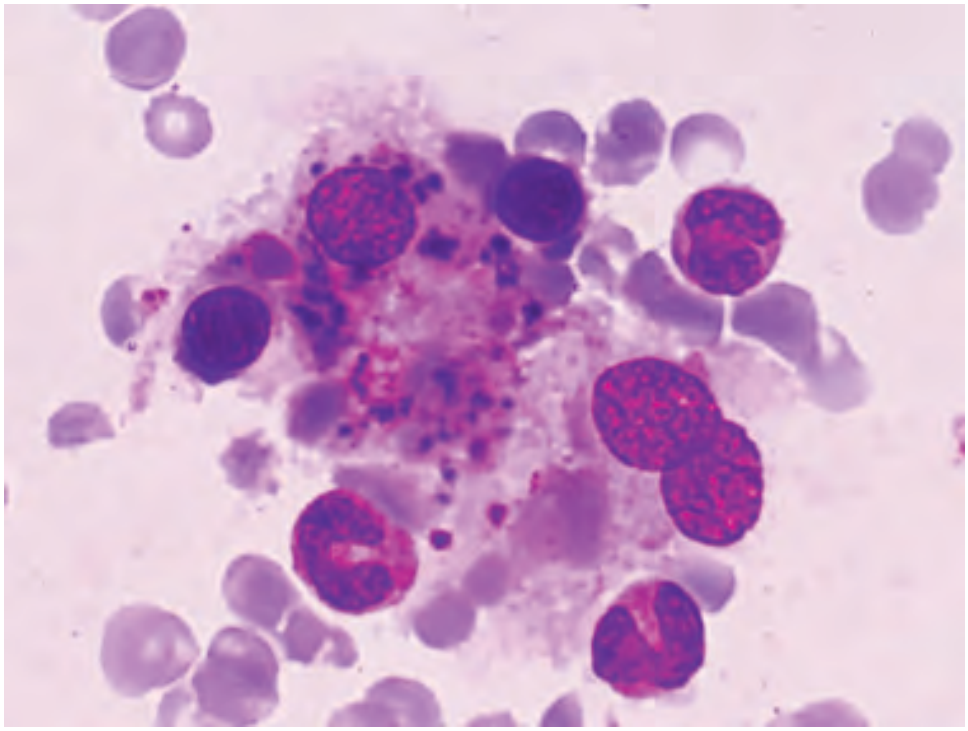

Image 1 : Haemophagocytosis image (Bone marrow stained with May-Grünwald Giemsa Grx100)

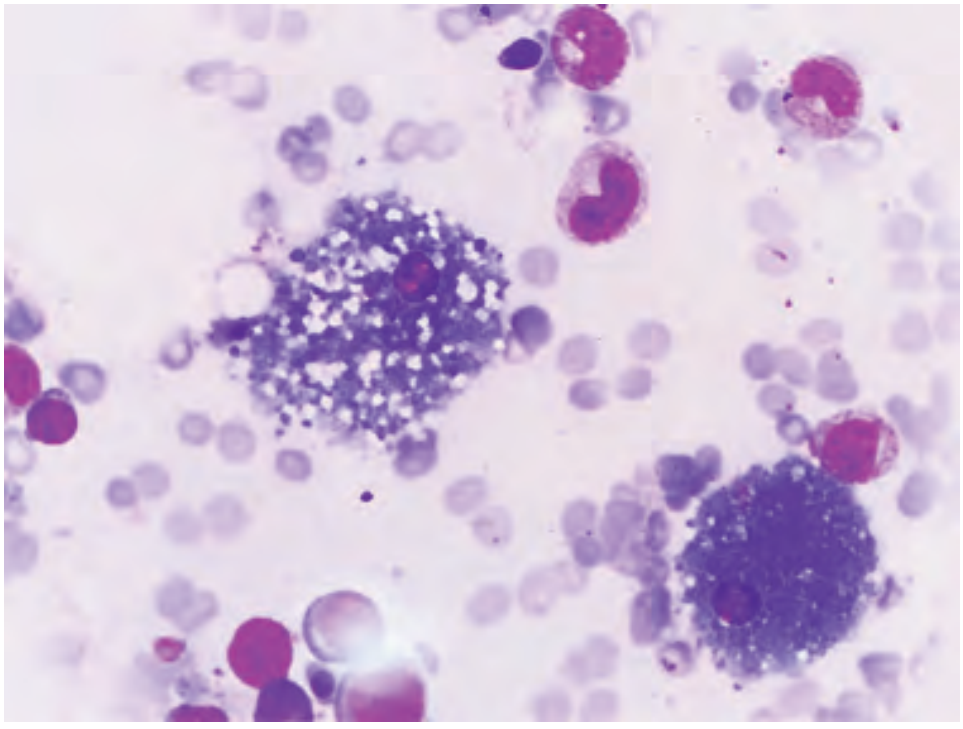

Image 2 : Sea-blue histiocytes (Bone marrow stained with May-Grünwald Giemsa x100)

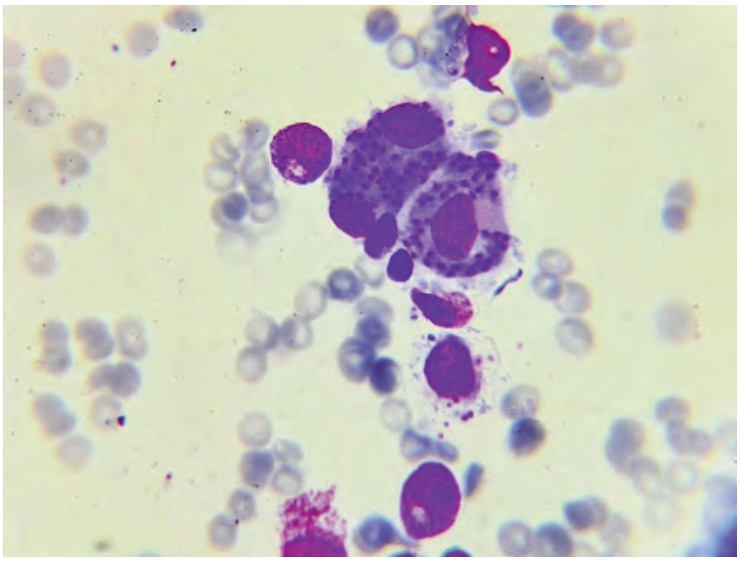

Image 3a

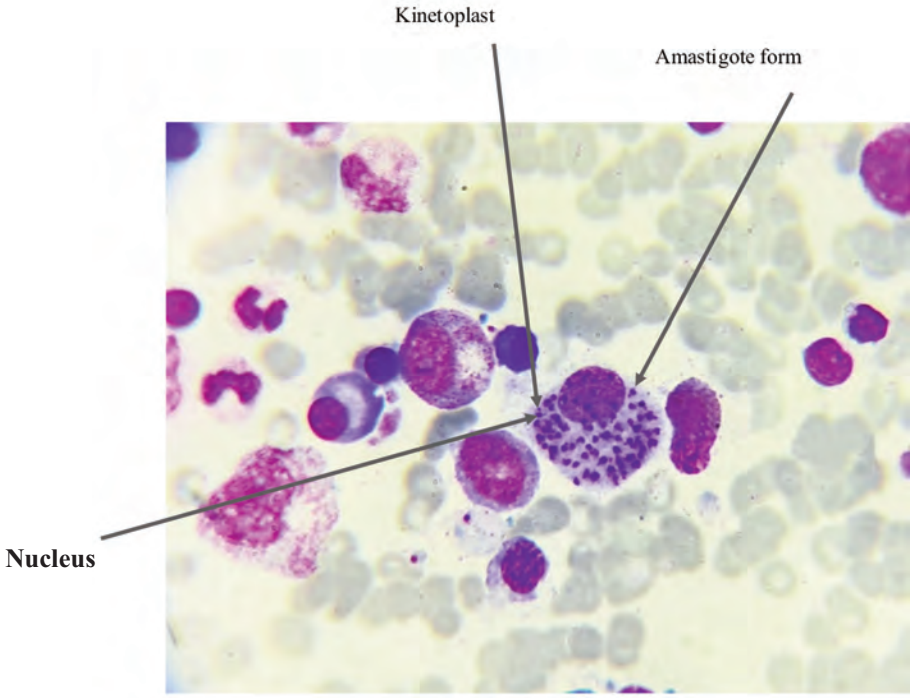

Image 3b

Images 3 : Amastigote forms of leishmania and a punctiform kinetoplast in an intramacrophagic (a) or extracellular (b) position. The arrows show amastigote form, the nucleus and kinetoplast (Bone marrow stained with May-Grünwald Giemsa Grx100).

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