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CASE IMAGE

A patient with leishmaniasis presenting with longstanding pancytopenia and hepatosplenomegaly

Simon Onsongo[1] | **Evelyne Mulwa**[2] | **Bonface Mutiso**[3]

[1]Aga Khan Hospital, Kisumu, Kenya

[2]ScanLab Diagnostic Center, Nakuru, Kenya

[3]St. Joseph RiftValley Hospital, Gilgil, Kenya

Correspondence
Simon Onsongo, Aga Khan Hospital, Kisumu, Box 530-40100, Kisumu, Kenya.
Email: simonya@live.com

Abstract

Leishmaniasis is a common cause of pancytopenia and hepatosplenomegaly in tropical and subtropical regions. A high index of suspicion is required to diagnose and manage patients with leishmaniasis. Travel history should always be elicited in a patient with suggestive clinical presentation.

KEYWORDS

amastigote, bone marrow aspirate, LD bodies, leishmania donovani, pancytopenia, visceral leishmaniasis

1 | CASE SUMMARY

A 23-year-old male patient presented with a 5-month history of progressive body weakness, dizziness, weight loss, and persistent fevers. He had normal vital signs except for a fever of 38.1°C. On examination, he had punctate oral sores, severe pallor, massive splenomegaly (10 cm below costal margin), and hepatomegaly (4 cm). Investigations revealed the following parameters: hemoglobin: 77 g/L (140–1650 g/L), mean corpuscular volume: 84.5 fL (80–100 fL), mean corpuscular hemoglobin: 27.8 pg (27–32 pg), mean corpuscular hemoglobin concentration: 329 g/L (320–360 g/L), red cell count: 2.77 * 10^{12}/L (4.7–6.1), red cell distribution width: 19 (12–16), white cell count: 0.68 *10^9/L, neutrophils: 0.21 * 10^9/L, lymphocytes: 0.40 * 10^9/L, monocytes: 0.05 * 10^9/L, and platelets: 44 * 10^9/L.

Peripheral blood smear showed marked rouleaux formation. Human immunodeficiency virus and liver/kidney functions were within normal limits. Bone marrow aspirate had hypercellular spicules with increased plasma cells and numerous amastigotes (Figure 1). The patient was confirmed to have visceral leishmaniasis with a positive history of travel to a leishmania endemic region in Kenya. He was started on sodium stibogluconate intravenously at 20/kg/day for 28 days with good clinical recovery.

Leishmaniasis is a common infection in tropical and subtropical areas. It is caused by vector-borne protozoal parasites of the genus *Leishmania*. It is transmitted through the bites of infected hematophagous female sandflies (genera: *Phlebotomus* and Lutzomyia). In Kenya, the disease is endemic in the Rift Valley and North Eastern parts of Kenya.[1] There are about 4000 cases yearly, and about 5 million Kenyans are at risk of Leishmaniasis.[1] Clinical presentation can be variable depending on the type of species and nature of the immune response elicited.[2] The most common clinical presentations include systemic or disseminated disease and cutaneous and mucosal lesions. The diagnosis requires a high index of suspicion in a patient with consistent symptoms in the proper epidemiological context. The diagnosis typically requires a combination of clinical, parasitological, molecular, and serologic tests.

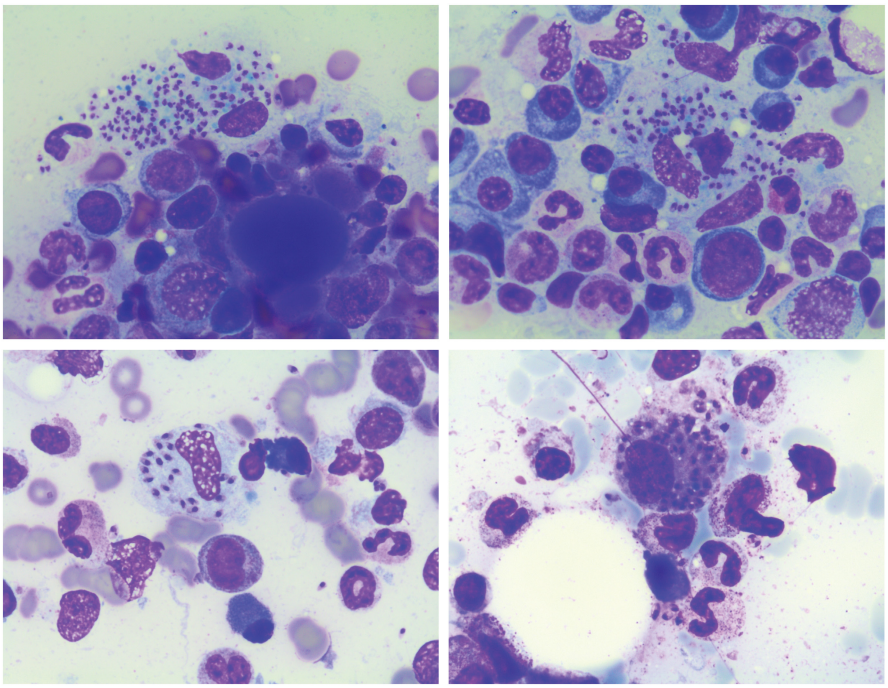

FIGURE 1 Shows numerous amastigotes from a patient's bone marrow aspirate sample stained with Giemsa. There are numerous amastigotes both within the macrophages and within the extracellular space. The replication of amastigotes takes place intracellularly in the phagolysosome. The rupture of infected macrophages results in the release of amastigotes into the extracellular space, restarting the infection cycle. Numerous plasma cells are also seen.

AUTHOR CONTRIBUTIONS

Simon Onsongo Nyangena: Conceptualization; formal analysis; project administration; supervision; writing – original draft; writing – review and editing. **Evelyne Mulwa:** Conceptualization; data curation; formal analysis; investigation; methodology; project administration; resources; supervision; writing – review and editing. **Bonface Mutiso:** Conceptualization; data curation; formal analysis; investigation; project administration; supervision; writing – review and editing.

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FUNDING INFORMATION

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CONFLICT OF INTEREST STATEMENT

None.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available upon request from the corresponding author.

PATIENT CONSENT STATEMENT

Informed written consent was obtained from the patient for this case. No identifiable patient information is presented or used throughout this publication.

PERMISSION TO REPRODUCE MATERIAL FROM OTHER SOURCES

None.

INFORMED CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

ORCID

Simon Onsongo https://orcid.org/0000-0001-5286-989X

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