

Picture Quiz - Haematology

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CLINICAL SCENARIO

A 32-year-old male agricultural worker from Bihar presents with intermittent low-grade fever for 6 weeks, associated with progressive fatigue, early satiety, and weight loss (4 kg). No history of tuberculosis, recent travel, blood transfusions, or chronic illness.

On Examination:

Complete Blood Count (CBC)

Pallor present; Moderate splenomegaly (5 cm below costal margin); Mild hepatomegaly. No peripheral lymphadenopathy. No rash or eschar.

Vitals: Temp 38.3°C | HR 96/min | BP 110/70 mmHg

Parameter	Value
Haemoglobin (Hb)	8.4 g/dL
Reticulocyte Count	0.9 %
WBC	2,800 / μ L
DLC — Neutrophil	42 %
DLC — Lymphocytes	41 %
DLC — Monocytes	5 %
DLC — Eosinophils	12 %
ANC	1,176 / μ L
Platelets	90,000 / μ L
ESR	68 mm/hr

Biochemistry

Test	Result
AST	68 U/L
ALT	54 U/L
Albumin	2.8 g/dL
Globulin	5.2 g/dL
CRP	24 mg/L
Ferritin	890 ng/mL
LDH	380 U/L

Initial Evaluation for PUO: Blood cultures $\times 3$, Urine cultures, Chest X-ray, Mantoux test, ANA, HIV, HBsAg, HCV, Malaria panel — all within normal limits.

BONE MARROW ASPIRATION

Bone marrow aspirate was performed. Examine the photomicrographs below carefully and answer the questions that follow:

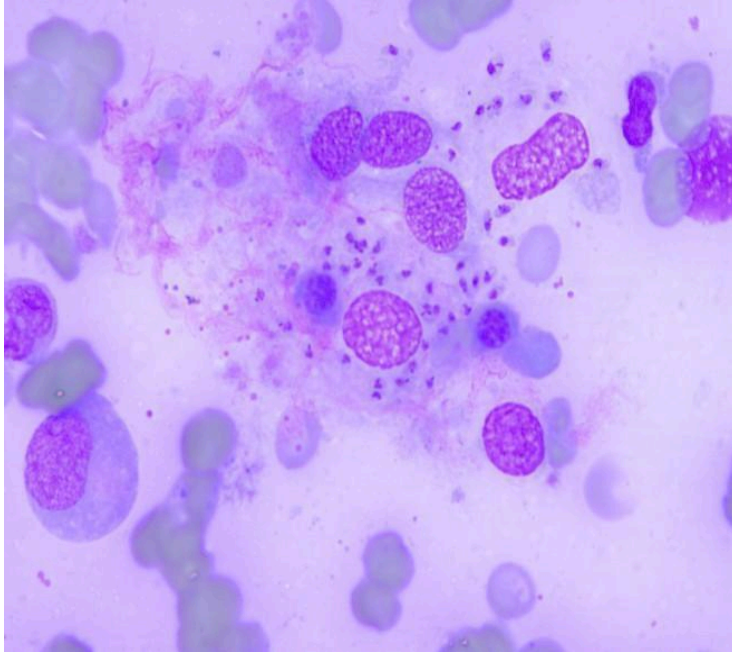


Figure 1. Bone marrow aspirate (Leishman stain, $\times 400$).

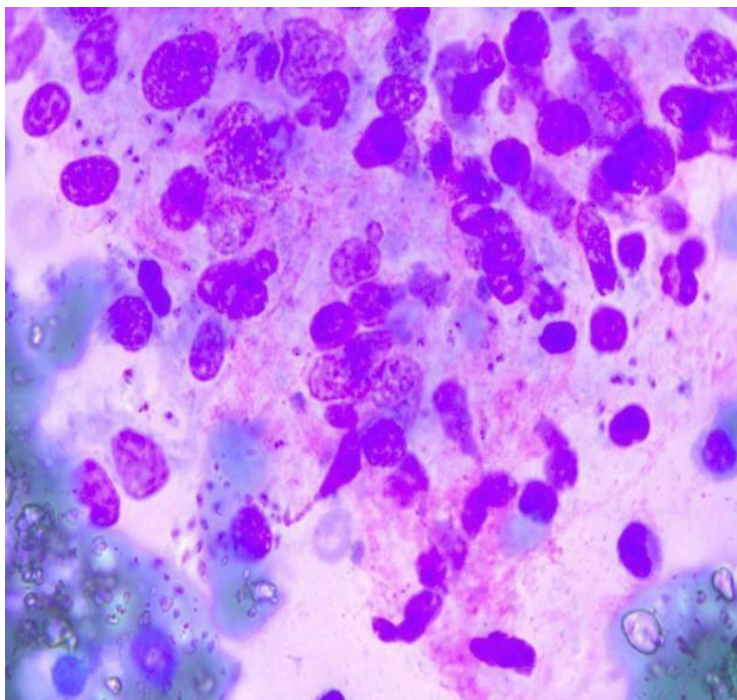


Figure 2. Bone marrow aspirate (Leishman stain, $\times 1000$, oil immersion).

DIAGNOSIS: Visceral Leishmaniasis (Kala-azar)

Q1. What are the histopathology findings ?

Histopathology Findings: Hypercellular marrow with numerous macrophages containing intracellular amastigotes (Leishman–Donovan bodies) — round/oval, 2–5 μm , with distinct nucleus and paranuclear kinetoplasts.

Q2 . What is the vector in leishmaniasis?

Answer: Phlebotomus argentipes (sandfly) — the primary vector of visceral leishmaniasis in the Indian subcontinent.

Q3. What is the intracellular form of Leishmania seen in bone marrow?

Answer: Amastigote form called Leishman–Donovan (LD) body — the obligate intracellular form residing within macrophages.

Q4. Which rapid serological test is used in the diagnosis of visceral leishmaniasis?

Answer: rK39 immunochromatographic strip test (rK39-ICT) — highly sensitive and specific for visceral leishmaniasis.

Q5. Drug of choice for visceral leishmaniasis in India?

Answer: Liposomal Amphotericin B (AmBisome®) — single-dose 10 mg/kg IV; recommended by the National Kala-azar Elimination Programme (NKEP).

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