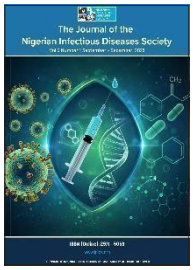
https://www.jnids.org ISSN: 2971-5059

Journal of the Nigerian Infectious Diseases Society



Case Report

Cutaneous Leishmaniasis in a Patient with Retroviral Disease and Disseminated Tuberculosis Co-Infection: A Case Report

Abubakar MS[1]*, Abdullahi DA[1], Dansanda B[1], Sidi D[1], Waheed A[1], Auta BJ[2], Iliyasu G[1], Hamza M[1], Nashabaru I[1], Habib AG[1]

1. Department of Internal Medicine, Federal Teaching Hospital, Katsina State.
2. Department of Medical Microbiology, Aminu Kano Teaching Hospital, Kano State

***Corresponding author:**

muhdsa88@gmail.com

Received: 18 Aug 2024
Revised: 12 Mar 2025
Accepted: 25 Apr 2025
Published: 24 Oct 2025

DOI
10.58539/JNIDS.2025

ABSTRACT

Cutaneous Leishmaniasis is one of the forms of leishmaniasis caused by the parasitic disease transmitted by Phlebotomous sandflies. There are about fifteen different species. This is not life-threatening but can leave permanent skin-disfiguring lesions. It is among the Neglected Tropical Diseases (NTDs) and about 95% of new cases of cutaneous leishmaniasis occur in the Americas, the Mediterranean basin, the Middle East, and Central Asia. HIV is a risk factor and Co-infection with Leishmaniasis has been well-documented. The first cases of HIV-leishmaniasis co-infection were described in Spain in the late 1980s. In the 1990s more than 90% of co-infection cases were reported in southern Europe. With the introduction of combination antiretroviral therapy (ART), the incidence decreased substantially in developed countries, but HIV-leishmaniasis co-infection poses a growing problem in parts of Asia, Africa, and Latin America.

Keywords: Leishmaniasis, HIV, Extrapulmonary Tuberculosis, Neglected Tropical Disease

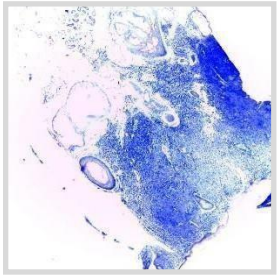
The index case is a 53-year-old male businessman who travels across the country, his recent visits were to Maradi in Niger Republic and Sokoto state and attest to sleeping outdoors with no Mosquito net. He is a known HIV patient for >1 year on Tenofovir+Lamivudine+Dolutegravir (TLD). He was admitted with six (6) months of complaining of progressively enlarging nodular lesions on the face, pinna upper trunk, and upper arms, and lower limb weakness. No cough, but has drenching night sweats, weight loss, and no previous treatment for Tuberculosis. Clinical examinations reveal a well-circumscribed nodular mass over the bridge of the nose, dysmorphic pinna, and upper limbs. Erythrocyte Sedimentation rate (ESR) IS 104mm/hr. Histology reveals the presence of atropic keratinized squamous epithelium. The underlying dermis exhibits intense lymphoplasmacytic and histiocytic infiltrations. Several of the histiocytes exhibit Donovan like bodies. Spinal MRI findings were suggestive of *Potts* disease.

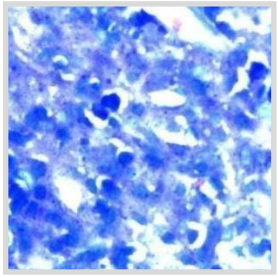
• The index case is a 53-year-old male businessman who travels across the country, his recent visits were to Maradi in Niger Republic and Sokoto state and attest to sleeping outdoors with no Mosquito net. He is a known HIV patient for >1 year on Tenofovir +Lamivudine + Double dose Dolutegravir(TLD) and commenced on Anti-kochs 3 months earlier.
• He was admitted with six (6) months history of progressively enlarging nodular lesions on the face, pinna upper trunk, and upper arms, and lower limb weakness.
• No cough, but has drenching night sweats, weight loss, and no previous treatment for Tuberculosis prior to the current illness.
• He was also on Anti- TB for the past 3 months on account of Extra pulmonary Tuberculosis (Chest and Spine) in our facility while attending orthopedic clinic. He has paraparesis.
• He has mild pallor, anicteric, mild pedal edema
• Clinical examinations reveal a well-circumscribed nodular mass over the bridge of the nose, dysmorphic pinna, and upper limbs.

2 3

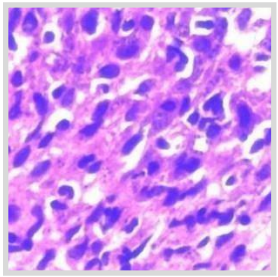
• Erythrocyte Sedimentation rate (ESR) is 104mm/hr.
• MRI Reveals compressive myelopathy at T9-T11 in keeping with Potts disease.
• Histology reveals the presence of atrophic keratinized squamous epithelium. The underlying dermis exhibits intense lymphoplasmacytic and histiocytic infiltrations. Several of the histiocytes exhibit Donovan like bodies. Spinal MRI findings were suggestive of *Potts* disease.
• He was started on IV Liposomal amphotericin B 200mg daily. Had for > 1 month and was discharged on Tabs Fluconazole 200mg daily.

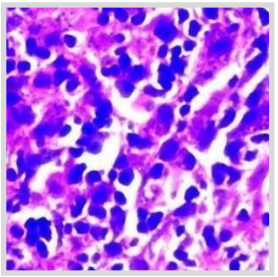
1 2



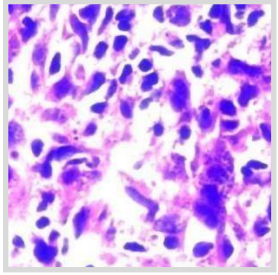


3 4

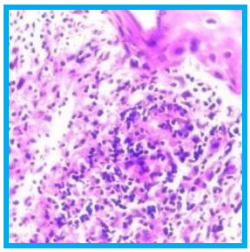




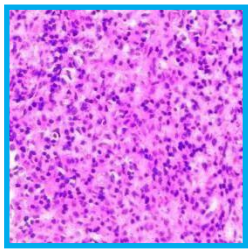
5



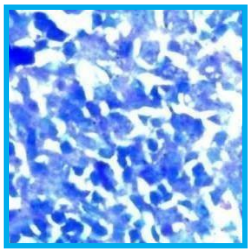
6



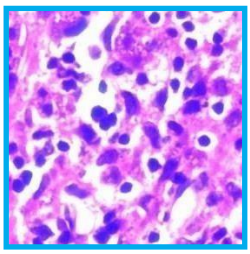
7



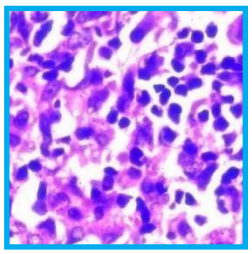
8



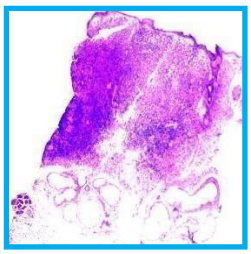
9



10



11



• He was re-admitted with progressively deepening Jaundice, bleeding per rectum, epistaxis, altered level of consciousness and body weakness.
• He was deeply icteric, mild pallor, dehydrated with slightly worsened skin lesions.
• GCS- 13/15 No neck stiffness, Pulse was 92 and normal volume BP=100/70mmhg
• LFT
AST- 259
ALT- 351
PT- 21
PTTK- 56
INR- 3.2
T. Bil- 67
D. Bil.- 22
T. Protein- 68
Albumin- 32
• FBC
PCV- 21% WBC 5.6 PLT
• E/U/CR
• Urinalysis
Bilirubin +++
Urobilinogen +
Protein +

1

2

3

DISCUSSION

• Drug interactions can be either pharmacokinetic or pharmacodynamics in nature. Pharmacokinetic interactions alter the absorption, transport, distribution, metabolism, or excretion of a drug. In therapy for HIV infection, pharmacokinetic interactions are often multifactorial.

• Pharmacodynamic interactions alter the pharmacologic response to a drug. The response can be additive, synergistic, or antagonistic. Pharmacodynamic interactions do not always modify a drug's concentration in tissue fluids.

• Drugs that inhibit cytochromes cause decreased clearance and increased plasma concentrations of substrate drugs, and the effects may be greater if inhibitory metabolites accumulate during multiple dosing.

• Drugs that induce cytochromes increase the rate of hepatic metabolism of other drugs by increasing the transcription of cytochrome messenger RNA (mRNA), which in turn leads to the production of more enzyme and a corresponding decrease in plasma concentrations of drugs metabolized by the induced pathway.

• Anti-TB drugs are one of the commonest drugs causing idiosyncratic hepatotoxicity worldwide.[4]

• Majority of the reports have used an elevated alanine (ALT) or aspartate transaminase (AST) of 3 times upper limit of normal range (ULN) with symptoms (abdominal pain, nausea, vomiting, unexplained fatigue or jaundice) attributable to liver injury or 5 times ULN of ALT or AST without symptoms to define hepatotoxicity.

• Drug Biotransformation, Detoxification and Elimination Formation of reactive metabolites has been implicated in a range of clinical toxicities including a proportion of those classified as 'idiosyncratic' DILI. Reactive metabolites are generally electrophiles. When they escape detoxification, they react with nucleophilic groups such as lysine and cysteine on cellular proteins. Covalently modified cellular proteins can either be repaired or degraded. If these processes fail, drug-metabolite adduct formation itself impairs important cellular function leading to the manifestation target organ injury

• Of note, it was also found that the correlation between different triazoles and DILI showed the following ranking: itraconazole > voriconazole > fluconazole > ketoconazole. [5]

CONCLUSION

• Leishmaniasis is among the well studies diseases among patient with HIV.

• It is a Neglected Tropical Disease (NTDs) with needed clinical attention especially in tropical region and when comorbidity occurs.

• The major challenge in this case is the possible drug-drug interaction that complicate the treatment.

• Less commonly is the progression of Cutaneous to Muco-cutaneous Leishmaniasis.

- **Declarations:** We hereby declare that all information in the manuscript is original and primarily as obtained during the clinical management of the patients.
- **Competing interests:** No
- **Funding:** No
- **Authors' contributions:** Abubakar MS, Iliyasu G, Habib AG, conceptualised the topics. Abubakar MS, Abdullahi AD, Dansanda B did the clinical summary of the cases. Abubakar MS, Sidi D, Auta BJ, Waheed A collected and interpreted the laboratory investigations. Abubakar MS, Iliyasu G, Hamza M, Nashabaru I and Habib AG did the discussion and conclusion.
- **Acknowledgements:** We appreciate all authors and reviewers of the manuscript for publication.
- **Source(s) of support:** Nil

Conflict of Interest: Nil

REFERENCES

1. WHO fact-sheets on Leishmaniasis. International edition. Published January 2023. Last updated July 2023.
2. Mokni M. Cutaneous leishmaniasis. Ann Dermatol Venereol. 2019 Mar;146(3):232-246.
3. CDC publication on Leishmaniasis 2023.
4. Ramappa V, Aithal GP. Hepatotoxicity Related to Anti-tuberculosis Drugs: Mechanisms and Management. J Clin Exp Hepatol. 2013 Mar;3(1):37-49.
5. Zhou ZX, Yin XD, Zhang Y, Shao QH, Mao XY, Hu WJ, Shen YL, Zhao B, Li ZL. Antifungal Drugs and Drug-Induced Liver Injury: A Real-World Study Leveraging the FDA Adverse Event Reporting System Database. Front Pharmacol. 2022 Apr 28; 13:891336.