"Challenges of TB management among individuals with advanced HIV disease"

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Content

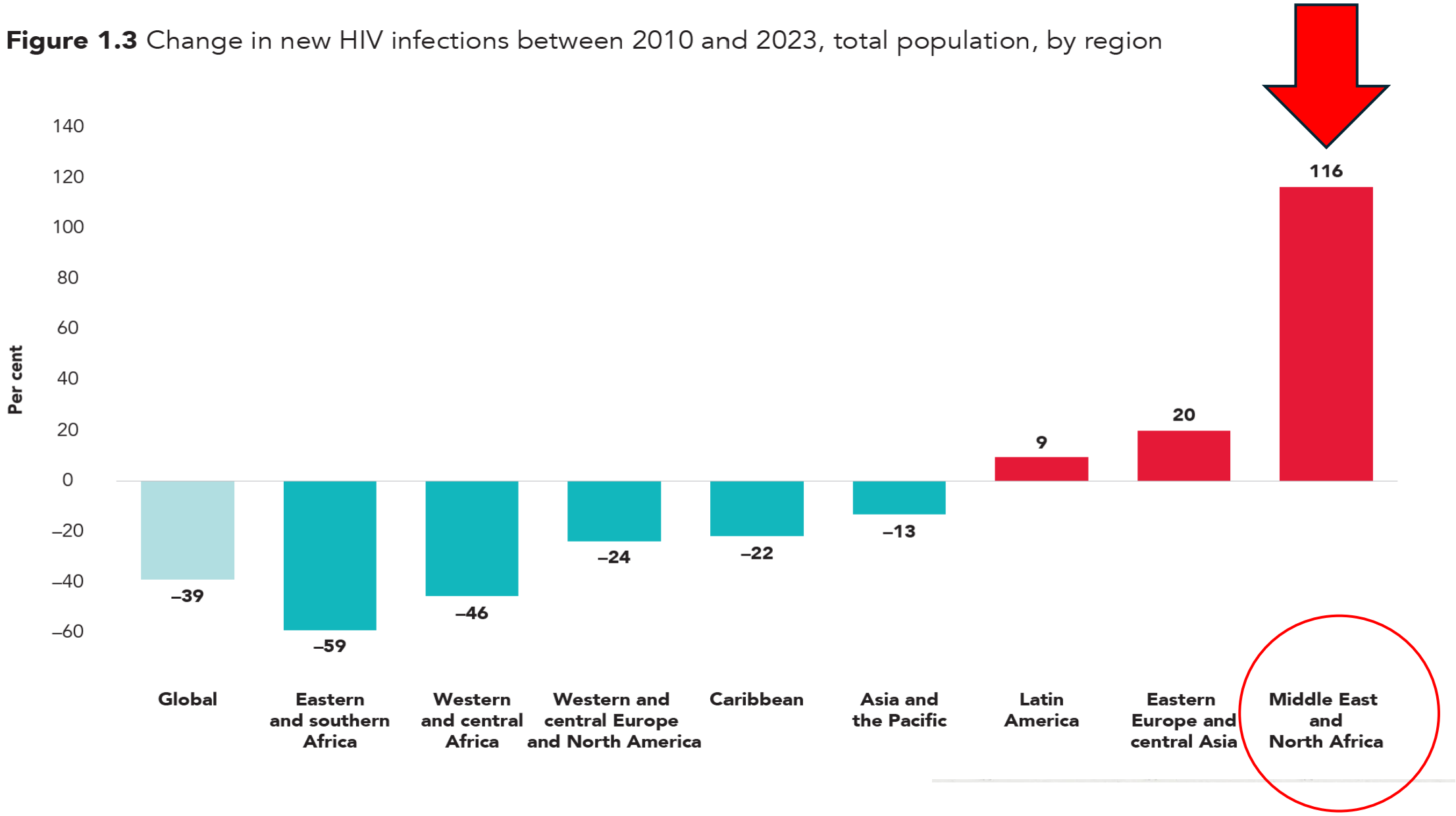
1 **Magnitude of the problem**

2 **Case based insights**

3 **TB meningitis**

1 Magnitude of the problem

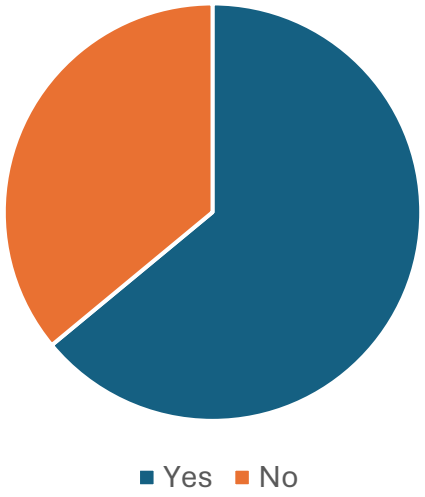
Figure 1.3 Change in new HIV infections between 2010 and 2023, total population, by region



The urgency of now: AIDS at a crossroads. Geneva: Joint United Nations Programme on HIV/AIDS; 2024.

Middle East and North Africa Region

% of people living with HIV who know their status

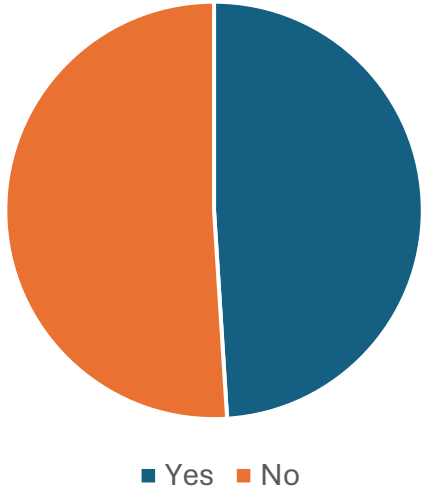


64%

77

%

% of people living with HIV who are on treatment

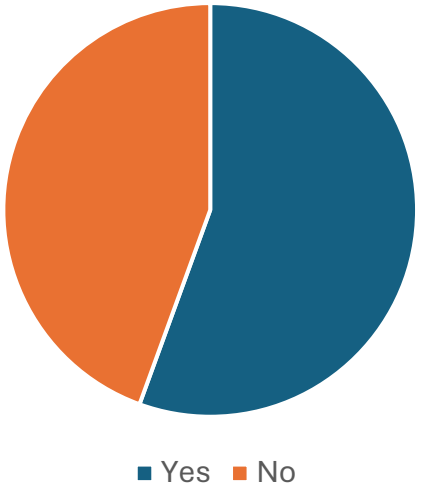


49%

92

%

% of people living with HIV who have a suppressed viral load:



45%

The urgency of now: AIDS at a crossroads. Geneva: Joint United Nations Programme on HIV/AIDS; 2024.

EACS2023: 720 | Prevalence and clinical characteristics of late HIV presenters among persons who are enrolled in care at our clinic: An Egyptian cross-sectional study

- Between Sept 2022 and May 2023

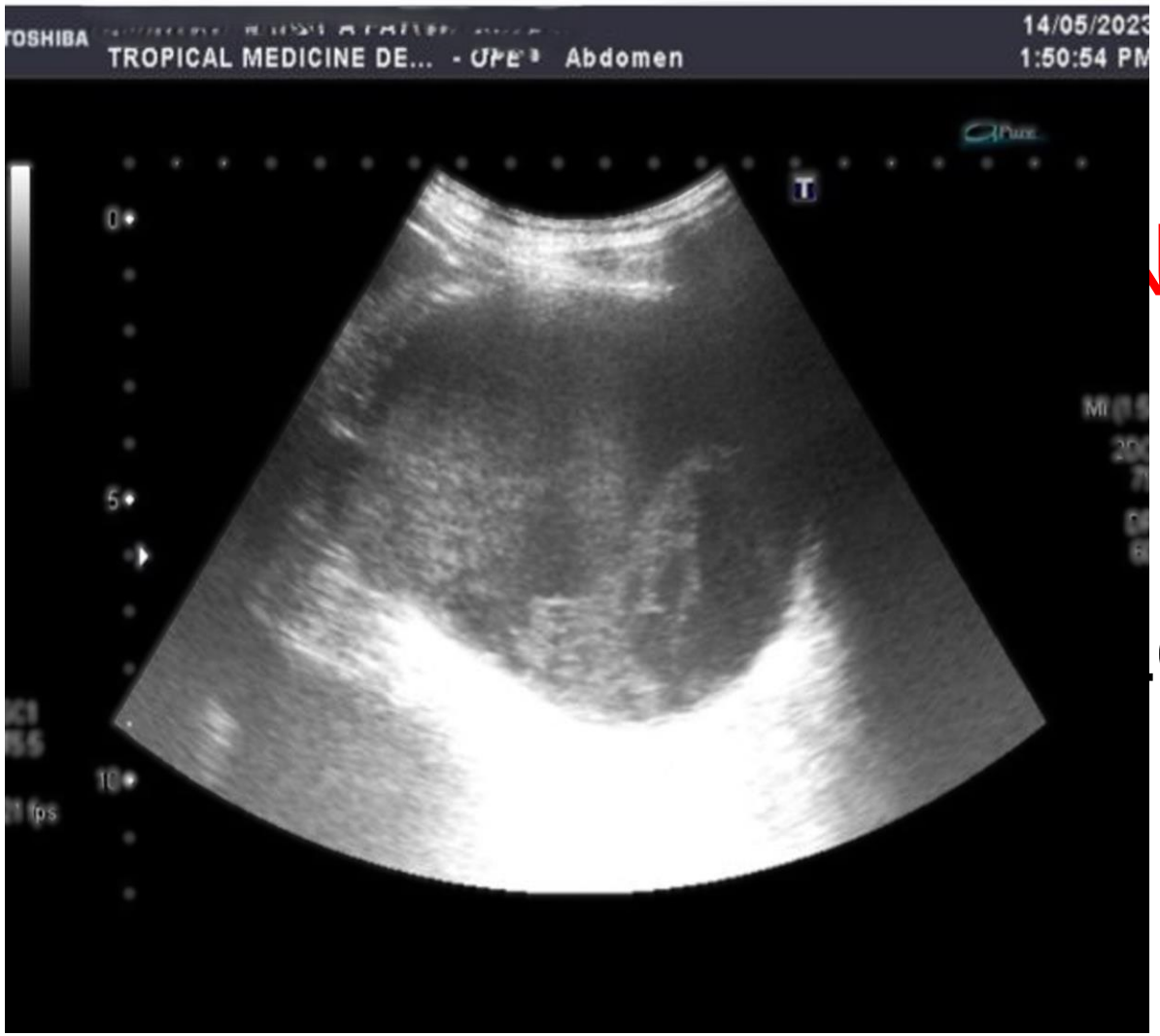
- Of 402 newly diagnosed individuals 172 (42.8%) were LPs and 65 (16.2%) were LPAD.
- 52 patients (30.2%) had AIDS and most frequent AIDS presenting illnesses were:
  - Wasting syndrome(27%)
  - Lymphoma (19%)
  - Recurrent bacterial infections (19%)
  - Pulmonary and extrapulmonary tuberculosis (15%)

EACS Abstracts. HIV Medicine, 24, 3-675. https://doi.org/10.1111/hiv.13572

Case based insights

Case 1:

- A 38-year-old male patient
- Recreational drug abuser for 15 years, diagnosed as HCV received SOF+DAC and HIV since 2017 on TDF+FTC+EFV then shifted to TDF+FTC+DTG
- Presented by fever (39 degrees) with rigors and sweating with no diurnal variation, bone aches , painful upper abdomen for a 1.5 month



HIV-RNA	950 copies /ml
CD4	45 cells/mm^3
HB	10 g/dl (NN anemia)

Negative

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GGT	102 U/L
Creatinine	0.6 mg/dl

Case 1: Fluid aspiration

- Culture and sensitivity : Negative
- CEA :18.38 ng/ml
- Amylase &Lipase: Normal
- Cytology free of malignant cells
- Z-N stain: Negative
- GeneXpert: Negative
- LAM test is not available

- Empirical anti TB: The patient completely improved, and the Cyst became smaller on follow up by ultrasound measuring 2.5 x 1 cm

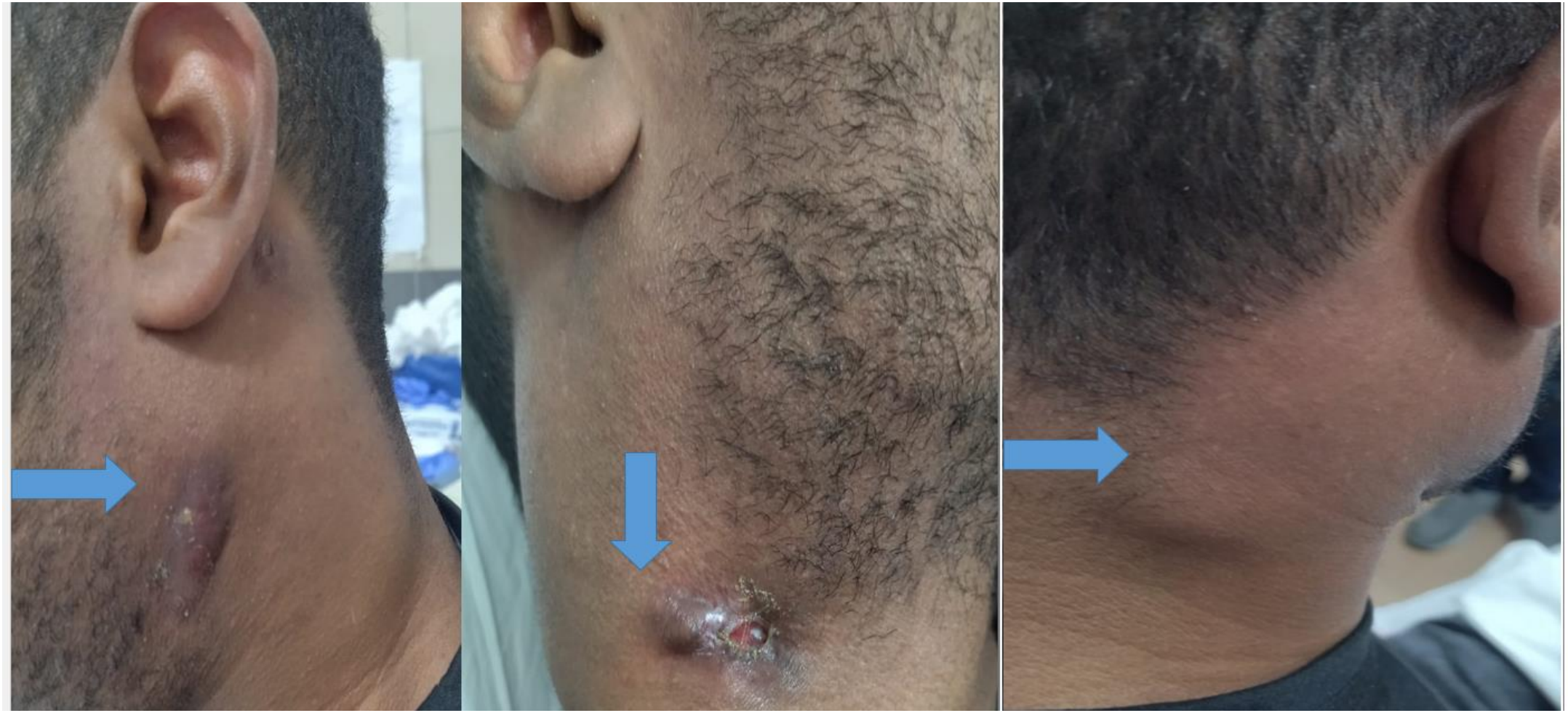
- No negative test rules TB in LP PLHIV

Case 2:

- 25-year-old male, diagnosed (5/2023)
- At time of diagnosis:
  - PCR:4340 copies per ml
  - CD4 count: 90 cell/ml
  - CD4 percentage: 10.6%

- Otherwise, all labs are normal including: CBC, kidney functions, electrolytes and liver biochemical profile

Case 2:



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Case 2:

- Started treatment and experience good response

- 9 months later experienced anaemic manifestations and he sought medical advice and found to have:
  - Anaemia of microcytic hypochromic pattern
  - Mild elevation of cholestatic markers (ALP and GGT)
  - US revealed a solid HFL: biopsied -> large B cell lymphoma

- Sometimes, a disease hides another one.
- TB and lymphoma can be indistinguishable as they can share similar clinical and radiological presentation.
- Thus, the diagnosis of lymphoma should be thought of as a possible explanation of the atypical evolution of a diagnosed TB under treatment, particularly when there is no evidence for antibiotic resistance

Case 3:

- 28y gentleman, not diabetic or hypertensive, heavy smoker
- He was recently diagnosed as HIV patient in pre-employment testing
- He underwent basic assessment including CBC, LFT, KFT, Virology, VDRL, CD4 and HIV PCR
- Then he started ART treatment (TDF+FTC+DTG)

Case 3:

- Two months later after ART initiation, the patient presented with fever, weight loss, dyspnea, productive cough, easy fatigability to mild exertion, LL edema and abdominal pain

- Anemia, hypoalbuminemia and elevated liver enzymes

Case 3:

- HIV PCR:5.58 x10^2 copies per ml
- CD4 count: 268 cells/µL, CD4 percentage: 22%
- Successive 3 samples Z-N sputum: negative
- Blood and urine culture: negative
- Toxoplasma IgG: negative, HSV 1,2 IgG: negative
- QuantiFERON: negative

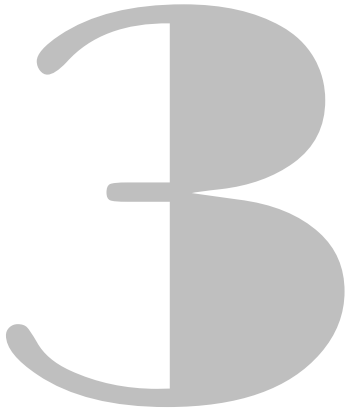
Case 3:

- US: Porta-hepatis, para-aortic, and celiac lymphadenopathy (hypoechoic, confluent and rounded, largest 1.5 cm) and splenomegaly with multiple splenic abscesses (each is less than 1cm)

- CT chest: Minimal bilateral pleural effusion
  - Bilateral basal ground glass opacities
  - Hilar lymphadenopathy

- Patient was assessed as having IRIS due to HIV with coinfection T.B. based on the clinical setting and to be given TB treatment

- Patient started steroids, and anti-TB treatment upon which his symptoms improved



TB meningitis

- Atypical Presentations: TBM can manifest with non-specific or subtle symptoms, delaying suspicion and diagnosis. Classic signs may be absent or less pronounced.
- No Definitive Rule-Out Test: Crucially, no single diagnostic test (CSF analysis, imaging, molecular assays) can definitively rule out TBM. High clinical suspicion is paramount even with negative initial results.

- Diagnostic Delay Consequences: Delayed diagnosis leads to increased morbidity, mortality, and neurological sequelae.
- Double Etiology: Consider the possibility of co-infections or other neurological conditions mimicking or complicating TBM in this vulnerable population. Thorough investigation is essential.

- IRIS Challenges: Differentiating TBM progression from TBM-IRIS is clinically challenging but critical for appropriate management (e.g., need for corticosteroids).
- Management Complexity: Managing TBM in the context of late HIV presentation requires careful balancing of anti-TB treatment, ART initiation/optimization, and potential IRIS management.

- Multidisciplinary Approach: Optimal management necessitates collaboration between infectious disease specialists, neurologists, and HIV physicians.

Thank you !!!