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MAC- IRIS IN HIV/AIDS PATIENT PRESENTING AS ENDO-BRONCHIAL LUNG MASS LESION

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HIV Infection

General Statistics

- As of December 2009 33 million people worldwide were estimated to be living with HIV/AIDS.
- Of the 33 million, 22.5 million were living in sub-saharan Africa alone.

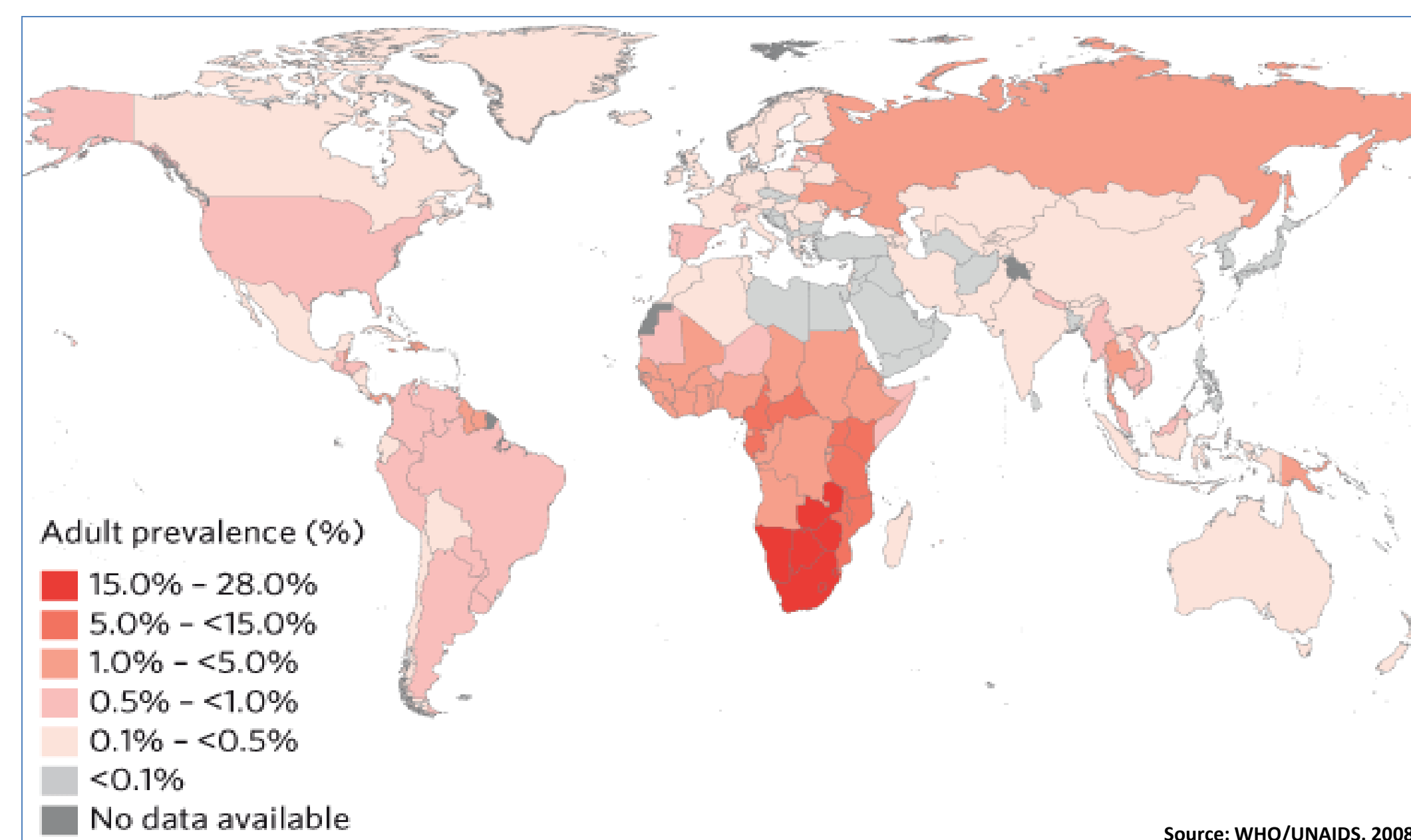


Figure 1: A global view of HIV infection in 2008: 33.4 million people living with HIV

- At the end of 2008, an estimated 1.2 million persons in the United States were living with HIV/AIDS.

North America and Western and Central Europe estimates 1990–2008

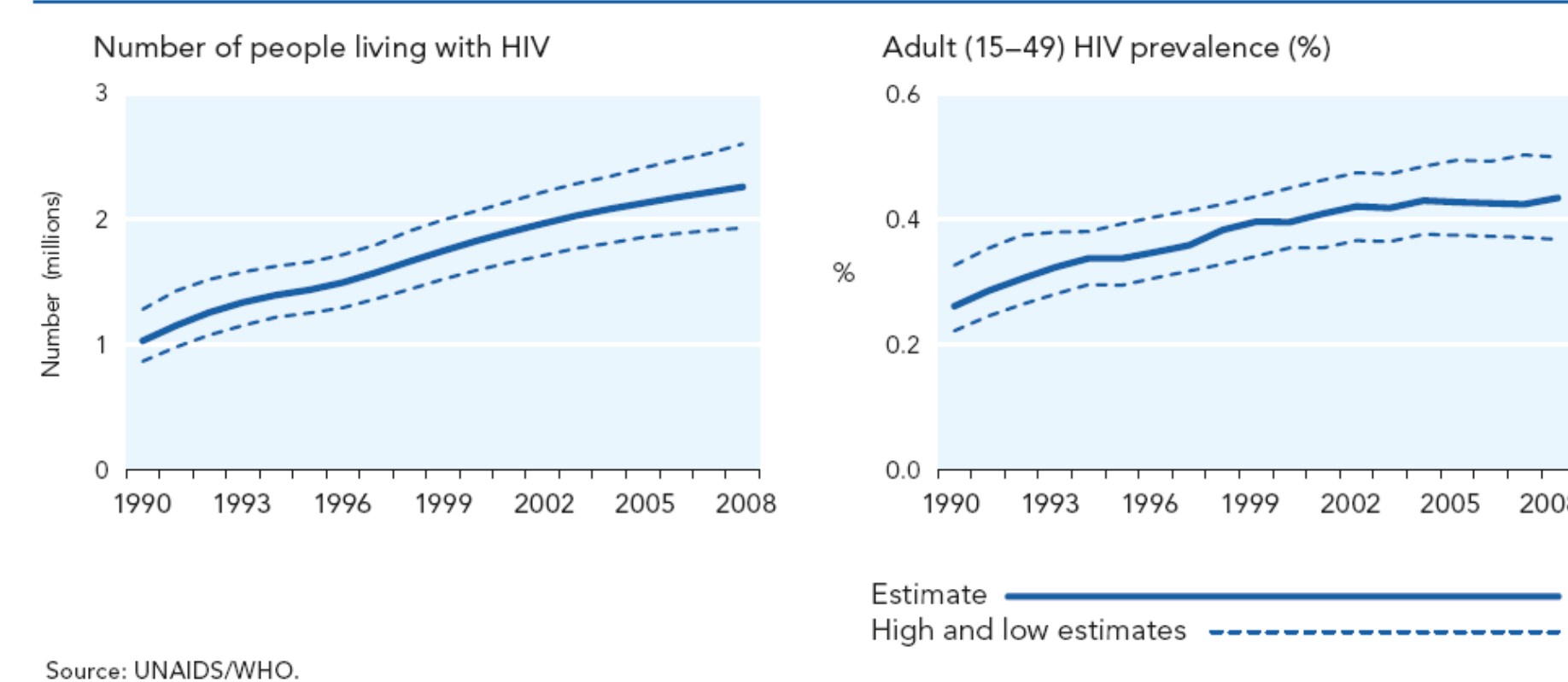


Figure 2: North America and Western and Central Europe estimates 1990–2008

- Approximately 2.9 million lives have been saved because of access to anti-retroviral therapy.
- The prevalence of HIV appears to have stabilized, or increased in some countries due to increased survival of infected people due to treatment with antiretroviral drugs.

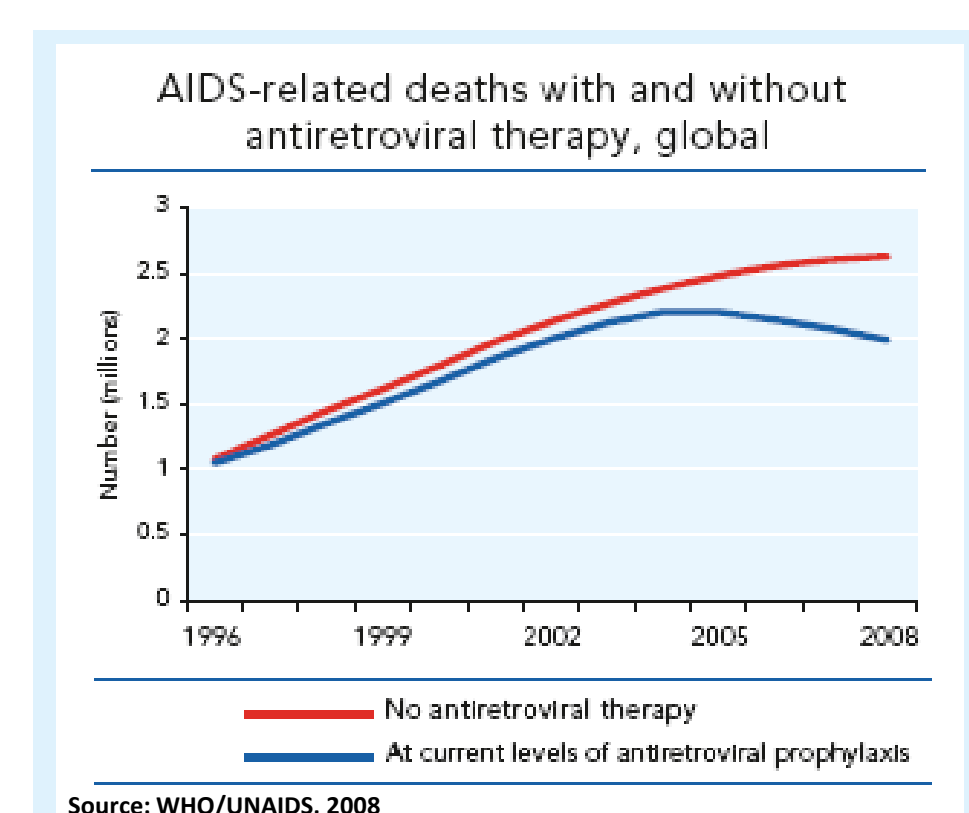


Figure 3: Estimated number of AIDS-related deaths with and without antiretroviral therapy, globally, 1996–2008

Case Presentation

In April 2010 we admitted a 26 year old male with HIV/AIDS for evaluation of persistent fever and diarrhea. At his initial diagnosis of HIV in January 2010 his CD4 count was 8 and (HIV) viral load 590,000 copies/ml. He was started on ART therapy in February 2010.

Fever evaluation revealed PET scan with left lower lobe lung mass with mediastinal and hilar lymphadenopathy concerning for AIDS related lymphoma, and stool culture stained positive for acid fast bacilli. Viral load on admission was 3200 copies/ml and CD4 count was 131.

Lung mass biopsy showed organizing pneumonia with necrotizing granulomas consistent with MAC pneumonia. The biopsy culture and a thoracentesis fluid specimen subsequently grew MAC.

Diagnosis of disseminated MAC IRIS was made and the patient was started on four-drug therapy for MAC with continuation of ART.

Discussion

IRIS in patients initiating ART has been firmly established as a significant problem. Because of wide variation in clinical presentation and the still increasing spectrum of symptoms and etiologies reported, diagnosis remains problematic. Furthermore, no specific test is currently available to establish an IRIS diagnosis.



Figure 4: PET Scan show Endo-Bronchial Mass.

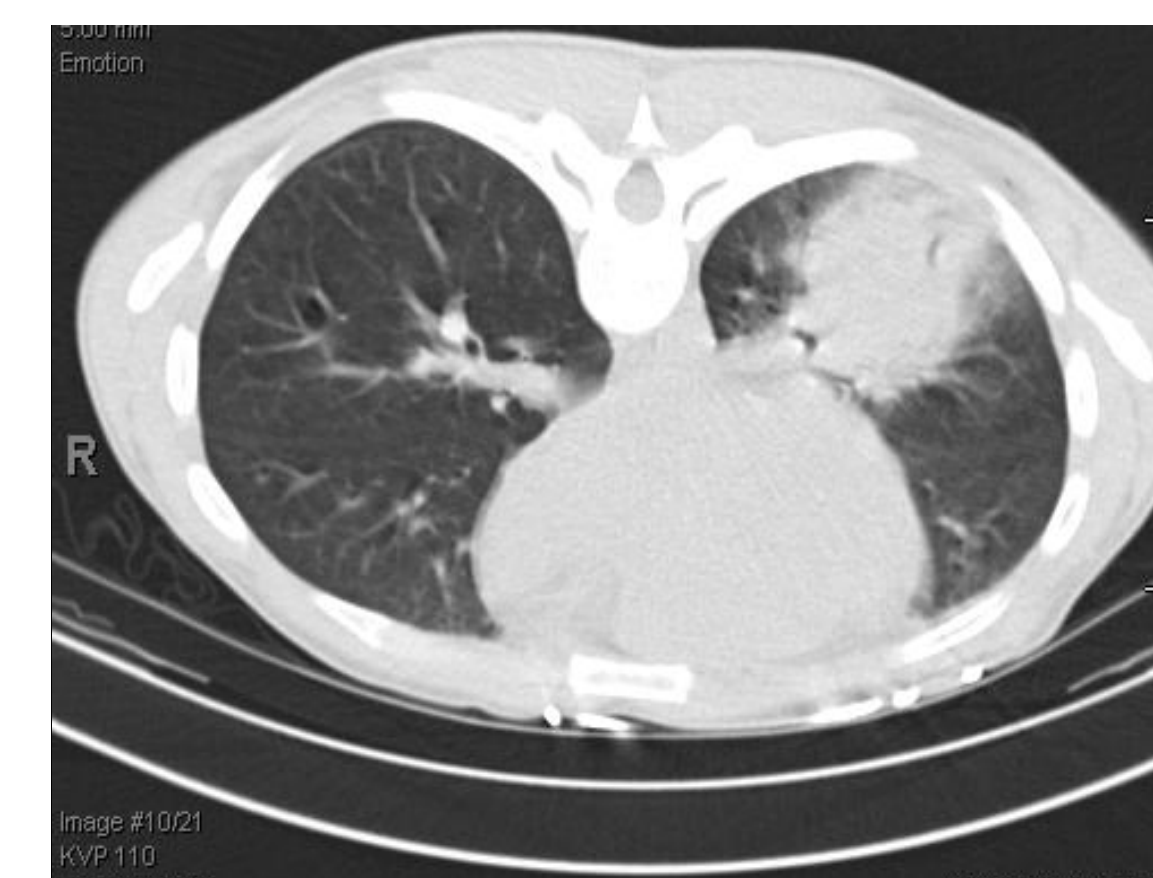


Figure 5: CT imaging of the chest demonstrated a left lower lobe mass

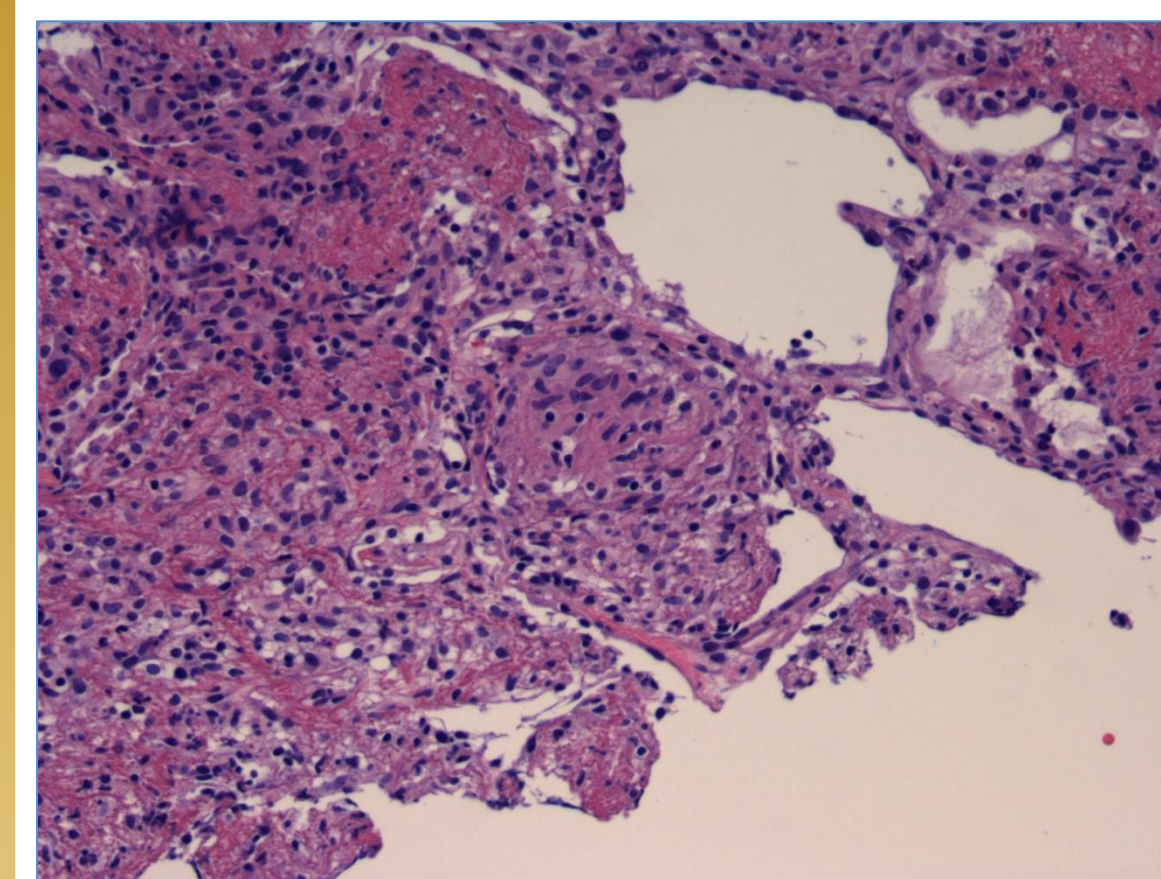


Figure 6: Lung Biopsy “Histopathology”.

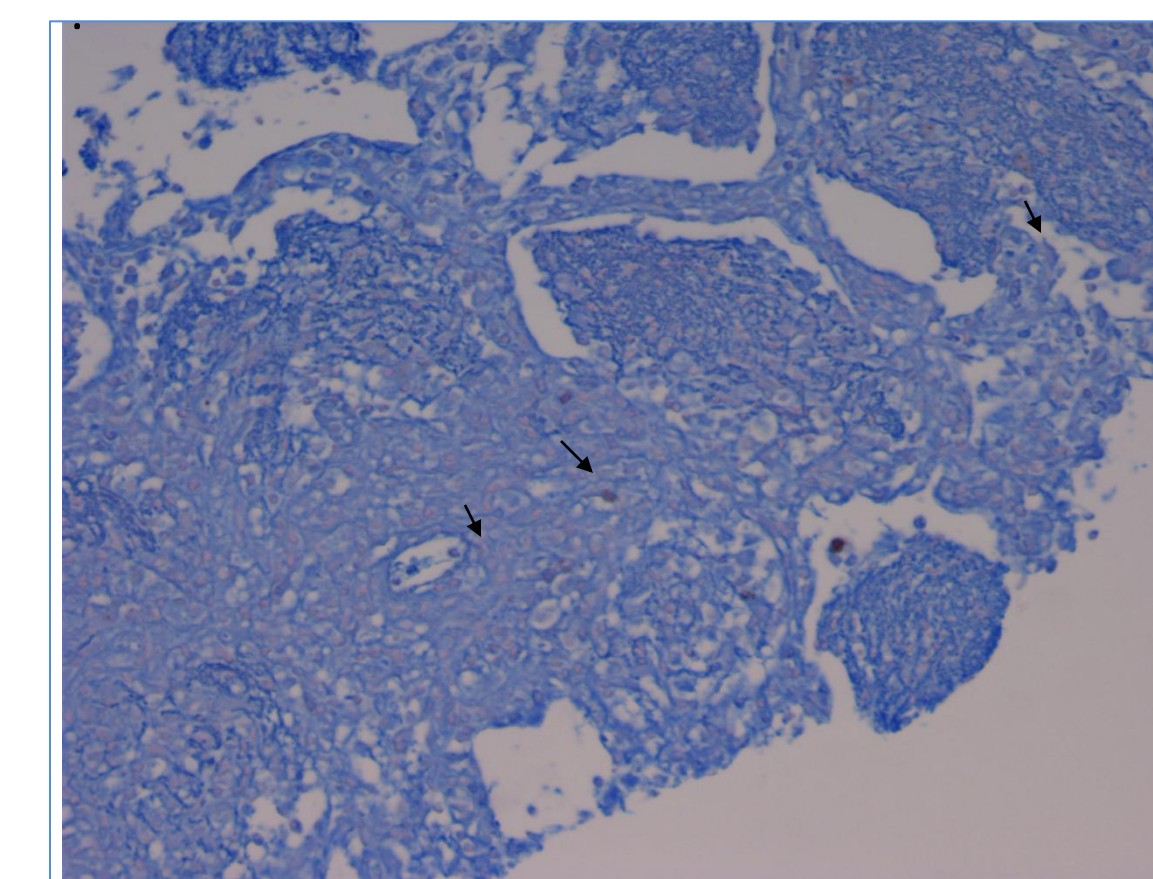


Figure 7: Lung Biopsy “AFB stain”.

Immune Reconstitution Inflammatory Syndrome (IRIS)

Definition

The term "immune reconstitution inflammatory syndrome" (IRIS) describes a collection of inflammatory disorders associated with paradoxical worsening of preexisting infectious processes following the initiation of highly active antiretroviral therapy (HAART) in HIV-infected individuals.

Incidence

Up to 30% of HAART responders developed one or more inflammatory syndromes consistent with IRIS.

Etiology

Table 1: Infectious and noninfectious causes of IRIS in HIV-infected patients

Infectious Etiologies	Noninfectious etiologies
Mycobacteria <i>Mycobacterium tuberculosis</i> [4, 6, 7, 10, 11, 26, 30-32, 41, 43, 45] <i>Mycobacterium avium</i> complex [4, 5, 23, 31, 94-96] Other mycobacteria [4, 56, 57, 98, 99] <i>Cytomegalovirus</i> [4, 33, 61, 63] Herpes viruses Herpes zoster virus [4, 32, 33, 71, 103, 104] Herpes simplex virus [4, 32, 33] Herpes virus-associated Kaposi's sarcoma [4, 32, 106] <i>Cryptococcus neoformans</i> [13, 16, 22, 28, 31, 83, 84, 86, 88] <i>Pneumocystis jirovecii</i> pneumonia (PCP) [8, 14, 32] <i>Histoplasma capsulatum</i> [107] Toxoplasmosis [33] Hepatitis B virus [32, 33] Hepatitis C virus [4, 32, 33, 108] Progressive multifocal leukoencephalitis [12, 33, 109] Parvovirus B19 [110] Strongyloides stercoralis infection [111] & other parasitic infections [112] Molluscum contagiosum & genital warts [32] Sinusitis [113] Folliculitis [114, 115]	Rheumatologic/Autoimmune Rheumatoid arthritis [29] Systemic lupus erythematosus (SLE) [91] Graves disease [92]. Autoimmune thyroid disease [93] Sarcoidosis & granulomatous reactions [20, 97] Tattoo ink [100] AIDS-related lymphoma [101] Guillain-Barre' syndrome (GBS) [102] Interstitial lymphoid pneumonitis [105]

Source: AIDS Research and Therapy 2007, 4:9

Immunobiology and Pathogenesis

- The likelihood and severity of IRIS correlates with two interrelated factors:
 1. The extent of CD4+ T cell immune suppression prior to the initiation of (HAART).
 2. The degree of viral suppression and immune recovery following the initiation of HAART.
- Pathogenesis remains largely speculative .
- Current theories concerning the pathogenesis of the syndrome involve a combination of underlying antigenic burden , the degree of immune restoration following HAART and host genetic susceptibility.

Treatment

- Continue HAART therapy is reasonable in patient with IRIS that is not life-threatening.
- Management of specific IRIS-related syndromes.

Summary Points

- The possibility of IRIS should be considered when initiating ART.
- When IRIS is suspected, thorough evaluation for a specific underlying pathogen should be performed based on clinical symptoms.
- When a diagnosis is made, pathogen specific treatment should be initiated promptly.
- Continue HAART therapy is reasonable in patient with IRIS that is not life-threatening.

References

- AIDS epidemic update. UNAIDS/09.36E / JC1700E (English, November 2009)
- Mycobacterium avium complex immune reconstitution inflammatory syndrome: long term outcomes. Riddell J 4th, et al. J Transl Med. 2007 Oct 15;5:50.
- Immune reconstitution inflammatory syndrome (IRIS): review of common infectious manifestations and treatment options. Murdoch DM, Venter WD, Van Rie A, Feldman C. AIDS Res Ther. 2007 May 8;4:9.