



Hemepath Case 41: 33-Year-Old Male

HISTORY

A 33-year-old male who is HIV-positive presents with extreme fatigue and fever. His partner notices that he is becoming increasingly pale. The patient also complains of recurrent nosebleeds every 2-3 days, and remarks that his gums often bleed when he brushes his teeth. He then shows you a petechial rash on his upper and lower extremities.

CBC

Hgb (g/L)	Low
MCV	N
Reticulocyte Count	Low
WBC	Low
Plt	Low

DESCRIPTION OF SLIDES

Bone Marrow Biopsy (Slide 41a)

The bone marrow biopsy shows a hypocellular marrow with patchy necrosis and occasional poorly formed granulomas (see circle).

Bone Marrow Biopsy with Silver Stain (Slide 41b)

The silver stain shows numerous collections of yeast forms (see circles).

*** To see the slide annotations in Imagescope, click on VIEW, then ANNOTATIONS, and then on the "eye" icon adjacent to the word "Layers". In the "Layer Attributes" box, a brief description of the annotations is provided. You may also click on individual layer region (e.g. region 1) in the "Layer Regions" box to locate each annotation – this is especially helpful in identifying annotations when the slide is not zoomed in. ***

MORPHOLOGICAL DIAGNOSIS

Fungal infection involving bone marrow

DISCUSSION

Fungal marrow infections occur almost exclusively in patients who are severely immunocompromised: AIDS and iatrogenic marrow suppression (e.g. bone marrow transplant) are two of the more common conditions associated with fungal marrow infections.

Granulomatous inflammation is typically observed in fungally-infected marrows. In immunocompromised patients, these granulomas may be very poorly formed. In any case with granulomas on a tissue biopsy, silver staining is required and is generally diagnostic of fungal infection. Speciating the fungus may require consultation with a medical microbiologist.

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