Over to Baz….

Mr B D

Referral from junior colleague...

29 yr old student

14 days fever, dry cough

3 days amoxycillin - to no effect

1 day history swelling to left side of neck

No past medical history

On Examination

Febrile

Tachypnoiec, tacycardic but ‘well’

Obvious left supraclavicular swelling – lymphadenopathy

Unremarkable auscultation findings

No other adenopathy or hepatosplenomegaly

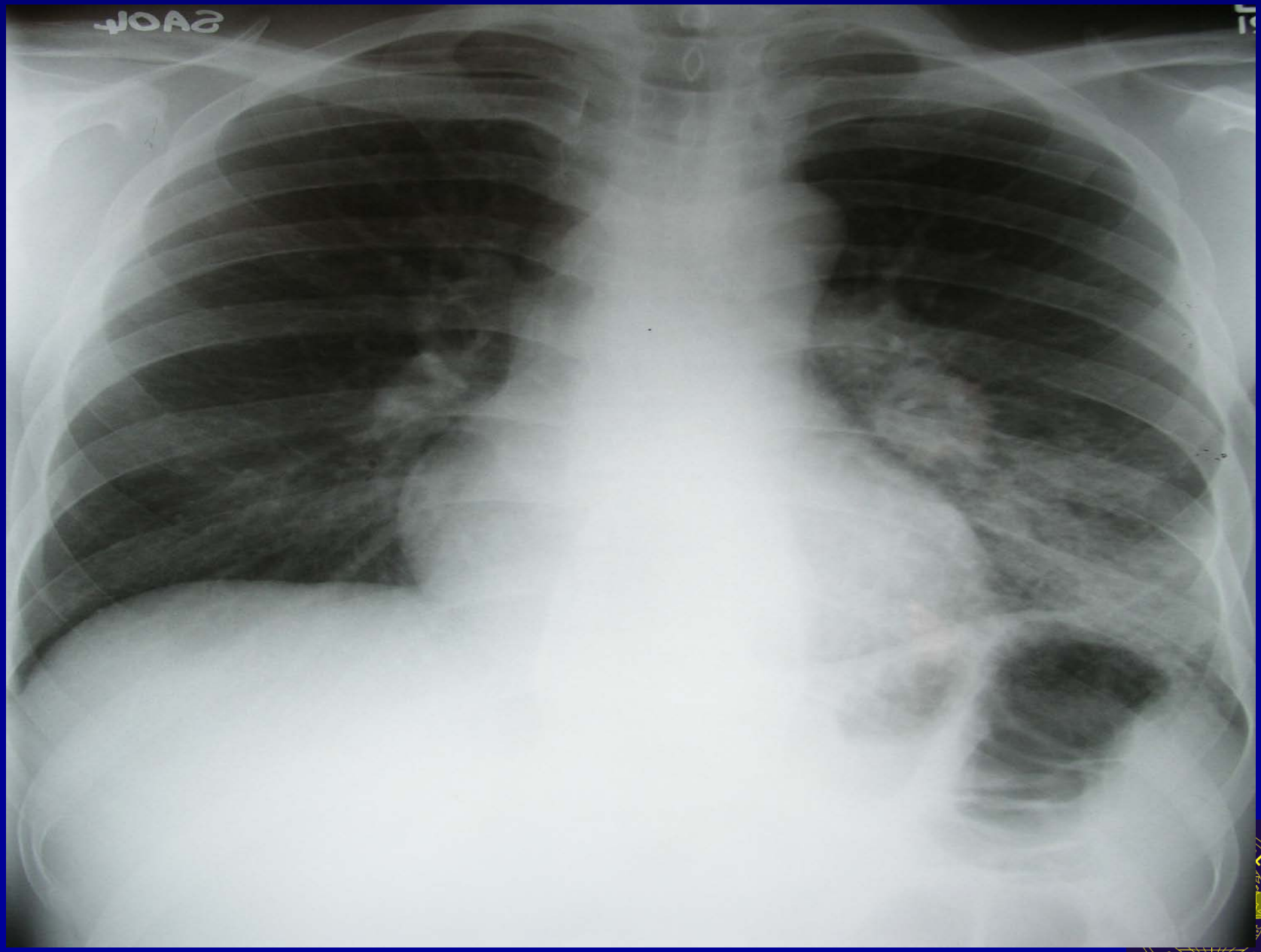
Lab Findings

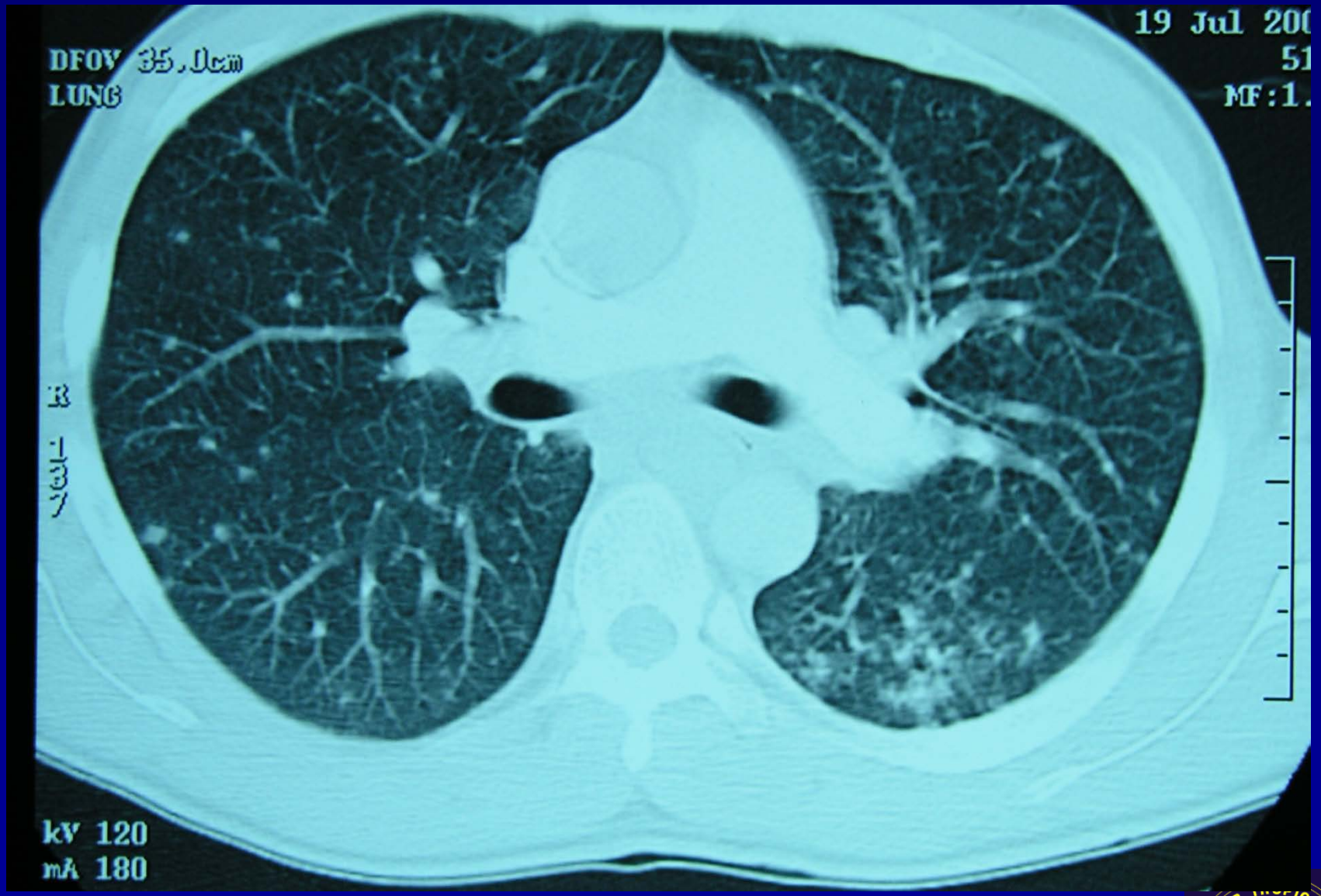
Raised white cell count - profound eosinophilia (6.4, normal <0.5)

Raised CRP, ESR

Normal electrolytes, liver function

Chest X-Ray




DFOV 35.0cm
LUNG
19 Jul 200
51
MF:1.
R
kV 120
mA 180

Anything you want to ask?

No risk factors for HIV\

No recent drug use (illicit/other)

Returned from 3 week holiday in USA approx 2 weeks prior to onset of fever

Thanks to Ralph Steadman

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LONDON

Anything you want to ask?

No risk factors for HIV

No recent drug use (illicit/other)

Returned from 3 week holiday in USA approx 2 weeks prior to onset of fever

……driving through Arizona to New Mexico

Differential Diagnosis?

Differential Diagnosis?

1. Lymphoma/leukaemia +/- pneumonia
2. Sarcoid
3. TB
4. Loefflers
5. Allergic Bronchopulmonary Aspergillosis
6. Acute eosinophillic pneumonia
7. Endemic mycosis

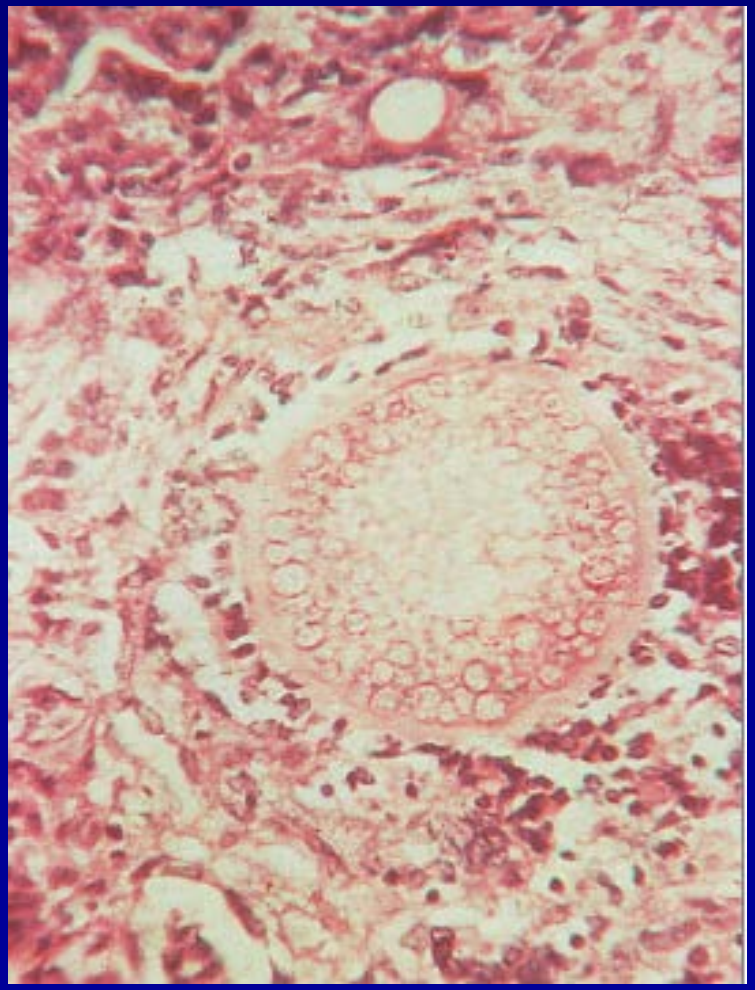
Diagnostic workup

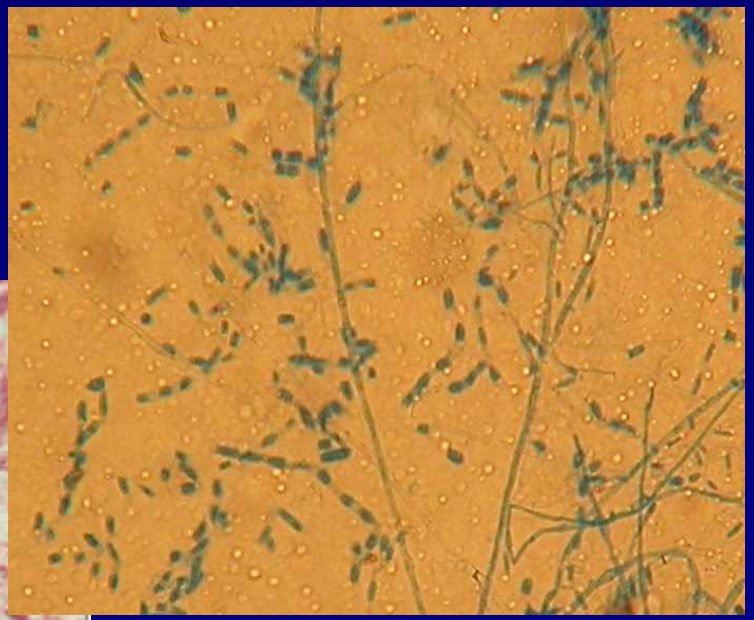
HIV serology

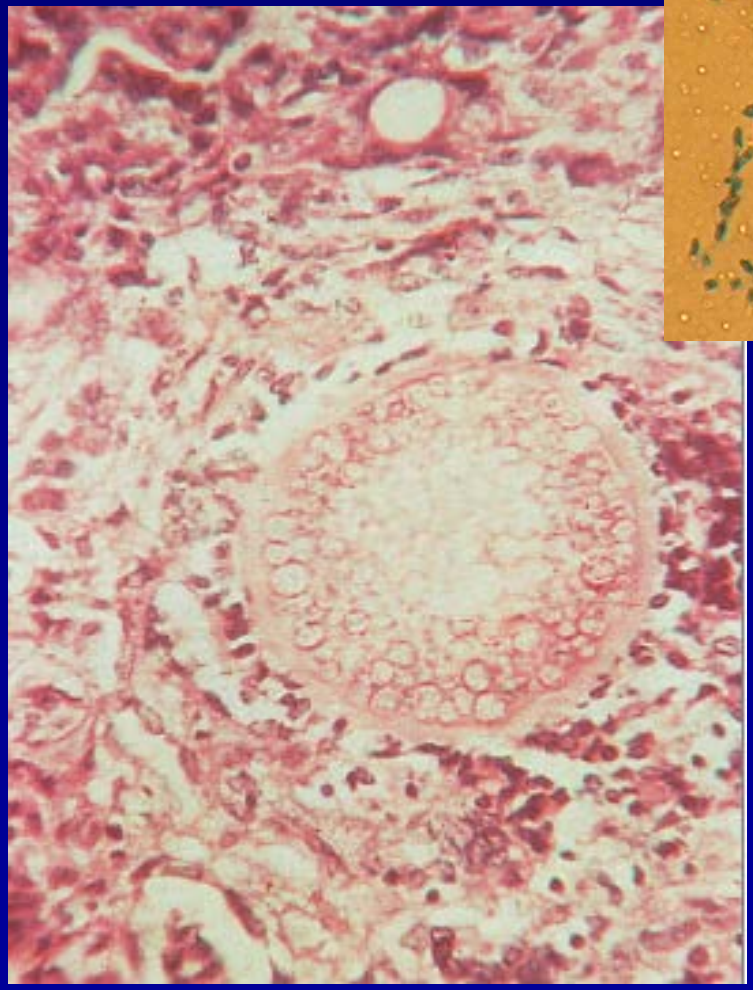
Induced sputum, listed for bronchoscopy

Lymph node biopsy

Other serologies







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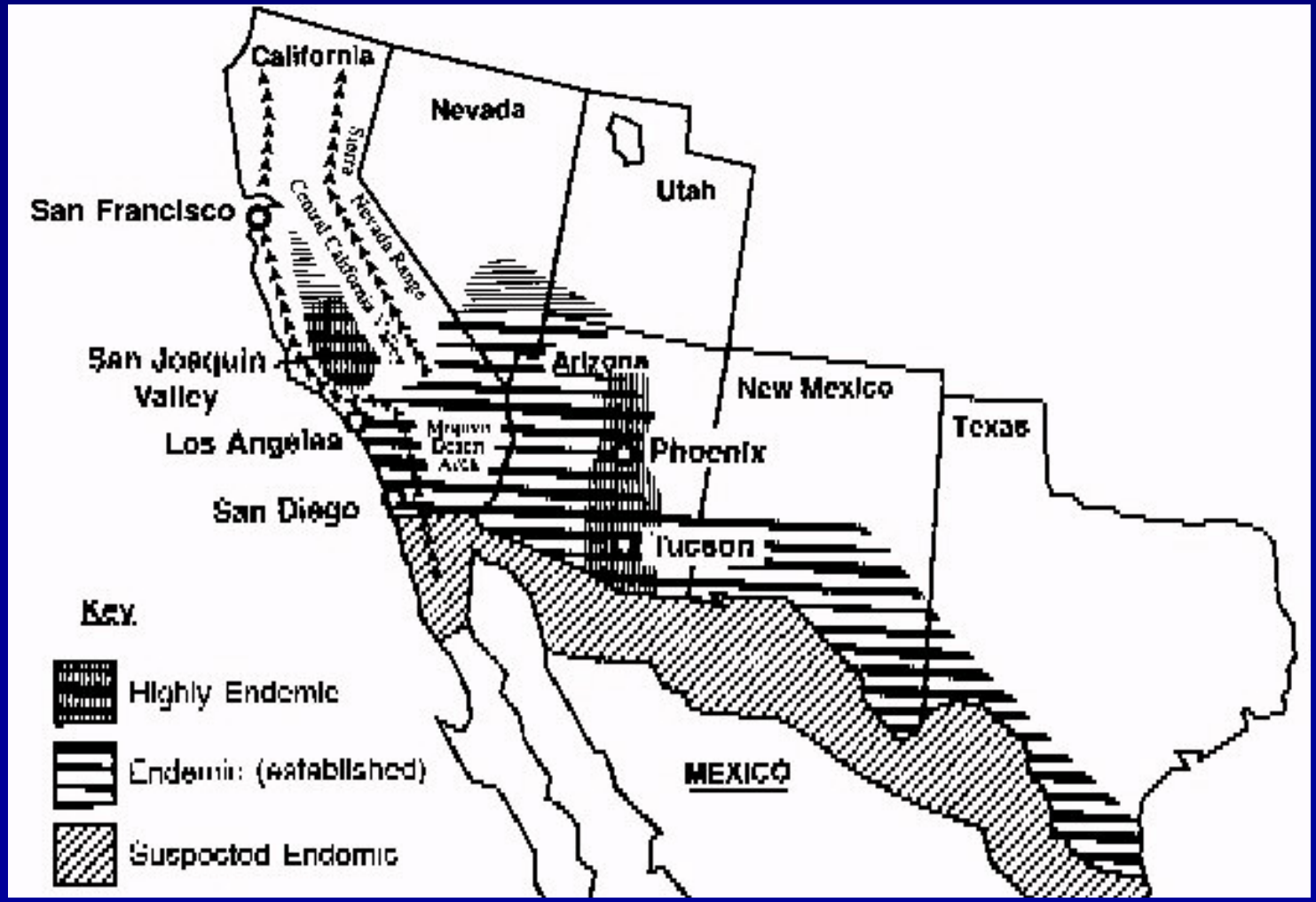
Coccidioidomycosis

Endemic in soil of SW USA, Mexico and parts of central America

Coccidioides immitis/posadasii



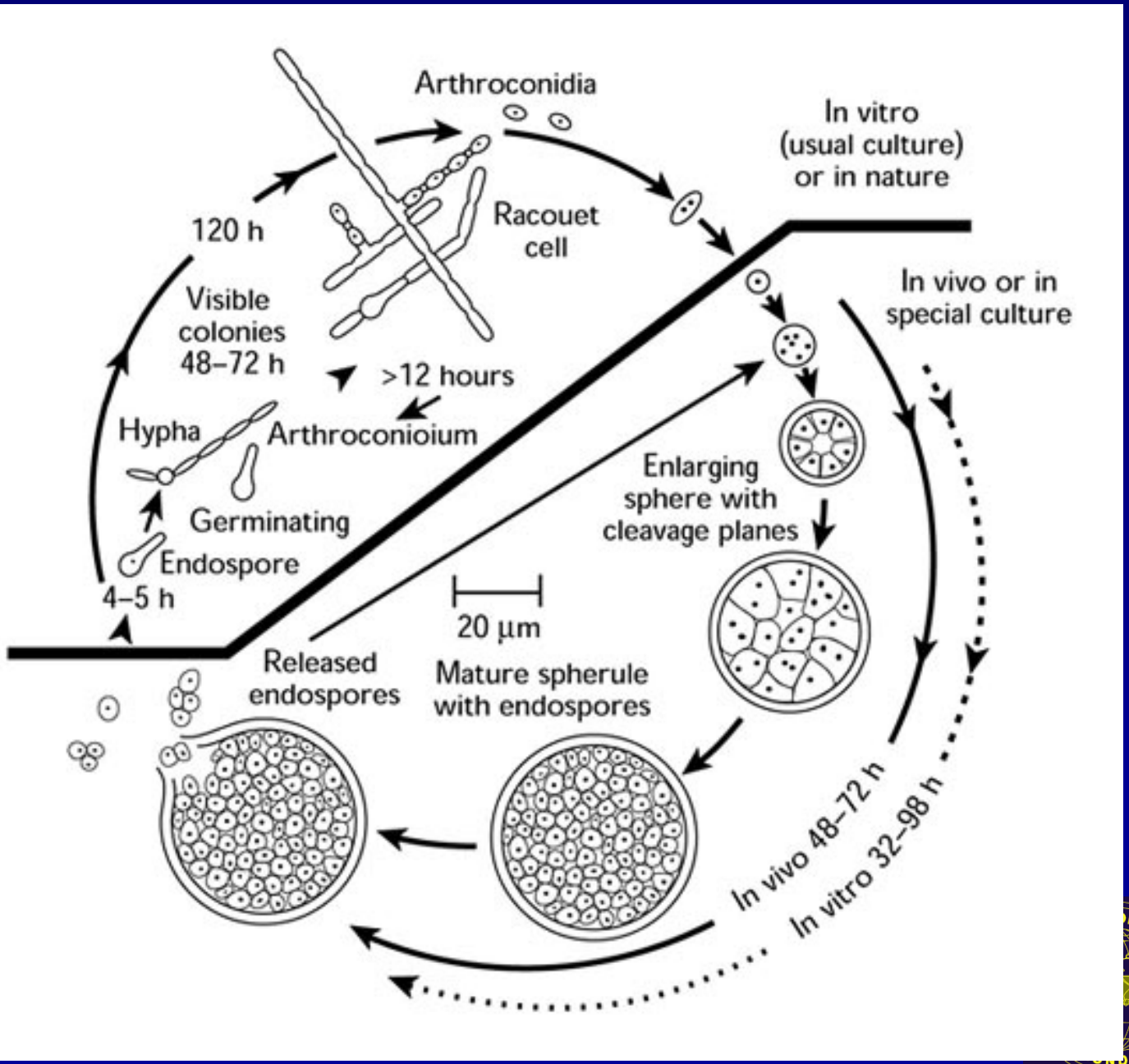
Coccidioidomycosis

Endemic in soil of SW USA, Mexico and parts of central America

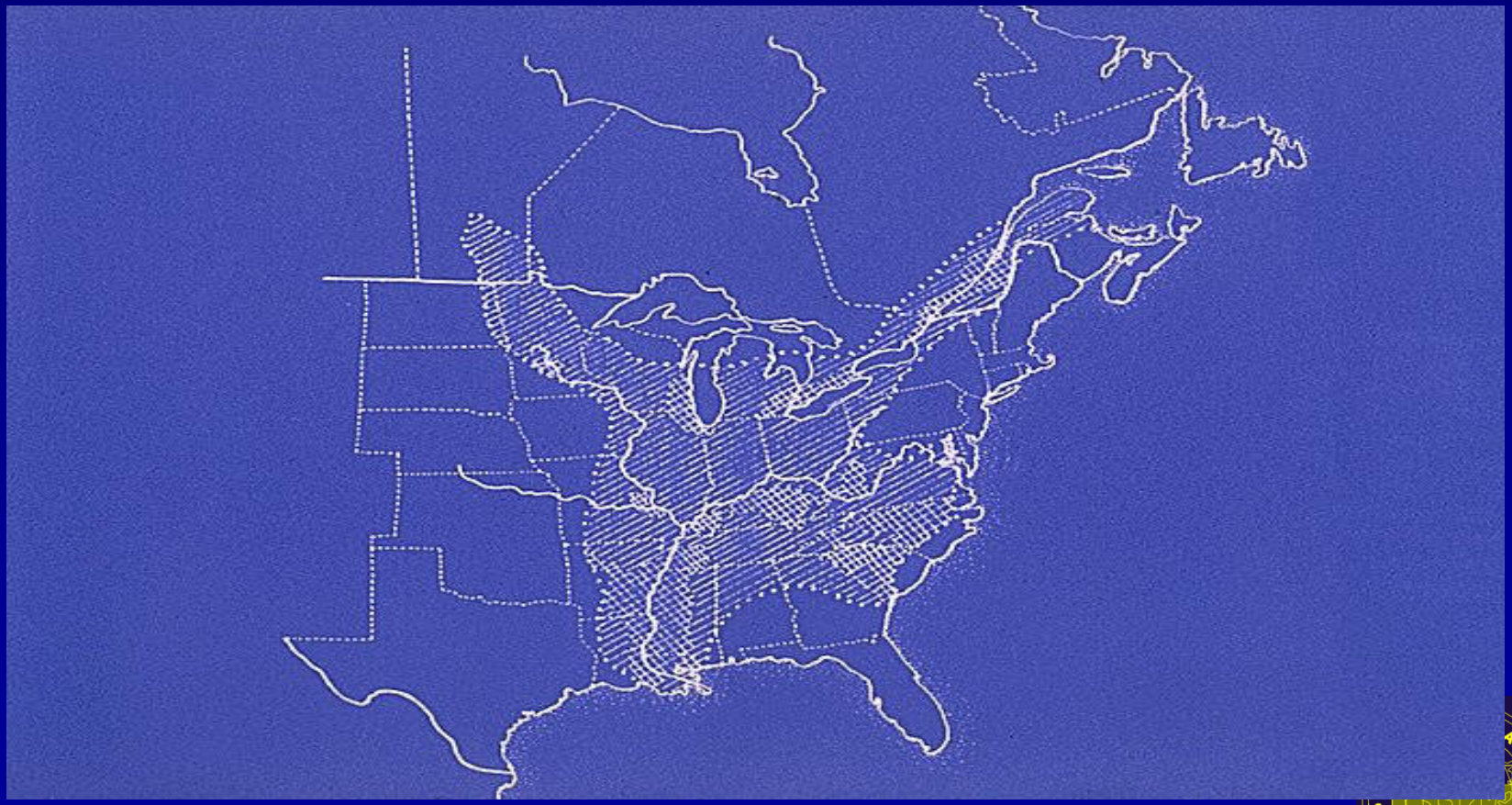
Dimorphic fungus

2 species described –
C. immitis & C. posadasii

Often associated with eosinophilia

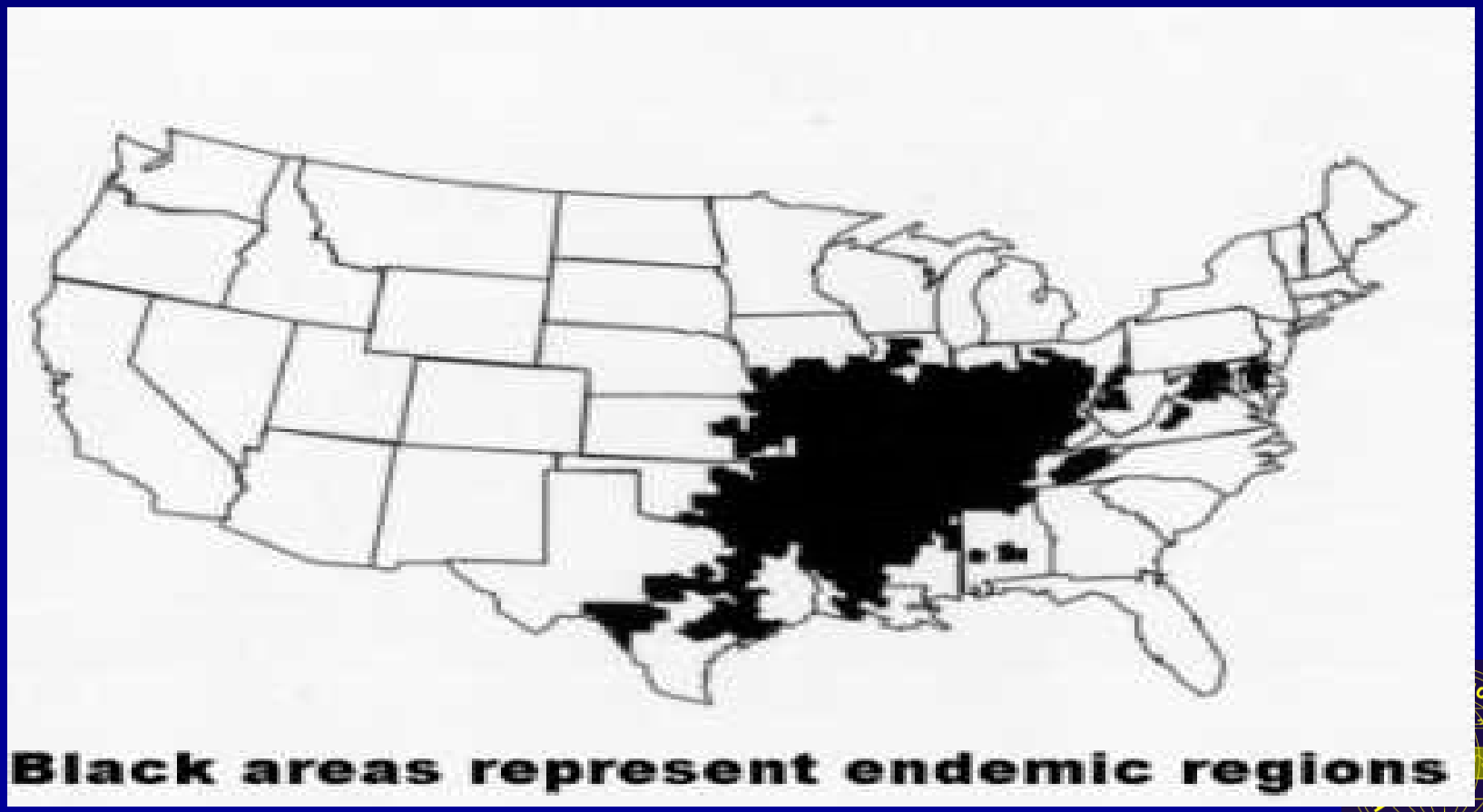

Arthroconidia
In vitro
(usual culture)
or in nature
Racouet
cell
120 h
Visible
colonies
48–72 h
>12 hours
In vivo or in
special culture
Hypha
Arthroconioium
Enlarging
sphere with
cleavage planes
Germinating
Endospore
4–5 h
20 µm
Released
endospores
Mature spherule
with endospores
In vivo 48–72 h
In vitro 32–98 h

Blastomyces dermatidis



Histoplasma capsulatum

- Also worldwide distribution



Coccidiodes

- est. 150 000 infections pa, 50-60% subclinical
- Seasonal incidence
- Clinical infection usually acute/subacute pneumonia
- 3-10% (0.5-1%) develop chronic intra (extra) pulmonary complications
- Management summarised in IDSA guidelines[1]

[1] Galgiani et al CID 2005;41:1217-23

Clinical Manifestations - Early

Subclinical (majority)

Pulmonary disease

- Unilateral infiltrates +/- cavities
- Hilar adenopathy
- Nodules
- Diffuse/fulminant pneumonia
- Miliary disease

'Desert rheumatism'

- Erythema nodosum, fever, arthralgia

Clinical Manifestations - Late

Chronic fibrocavitatory pneumonia

↑ in diabetics, smokers, fibrotic lung disease

↓ in immunodeficiency states

Often multilobular

Disseminated Disease

Uncommon

Increased Risk of Dissemination

- Immunosuppression
- Pregnancy
- African/Filipino origin
- Male sex

Skin, skeletal system and meninges most common

All other sites possible

Meningitis

- Usually develops early in infection
- Can present subacutely
- Basilar meningitis
- Vasculitis
- Hydrocephalus commonly complicates
- CSF findings similar to TB, but eosinophilia occasionally prominent

Diagnosis

- Serology
  - Complement fixing antibodies (CF) – IgG
  - Precipitin test – IgM
  - ELISA
- Culture
  - Sputum/BAL
  - Lymph nodes
- Histology
- Skin test

Treatment

See IDSA guidelines

Many do not need therapy

Oral azoles/amphotericin

Mr B.D.

Started on itraconazole 200mg BD and discharged to close follow up

Fever resolved rapidly

CXR showed improvement

Treated for several months

Any questions??

Mrs HA

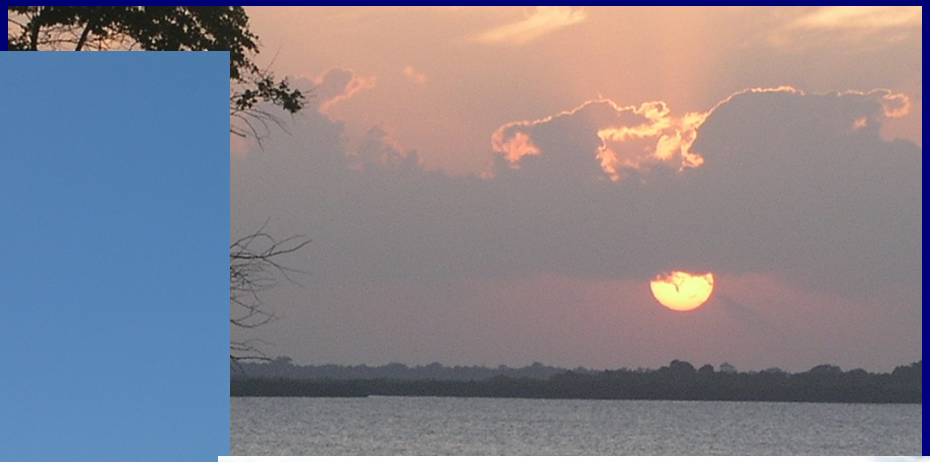
31 yr old chinese-american lady

20 weeks pregnant

No PMH

Mefloquine prophylaxis

9 day trip to Tanzania , returned 12/8/08



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Presentation

Unwell for 2 days in Zanzibar

- Watery diarrhoea

Noticed spot on forehead

3 days after return went for ‘facial’

Spot enlarged

6 days after return attended HTD (18/8)

Presentation - HTD

Fever, diarrhoea, headache X 24hrs
- Diarrhoea and headache settled
- Febrile in department
- Noted to have adenopathy & insect bites

Bloods
- Malaria film negative
- Hb11.1 WBC 9.25 Plt 210
- U&Es & LFTs Normal
- CRP 15

Discharged with follow up

Progress

HTD contacted after 48hrs (20 August)

Admitted elsewhere after 24 hrs under Obstetrics

? skin sepsis - facial LN enlarging + bite site necrotic

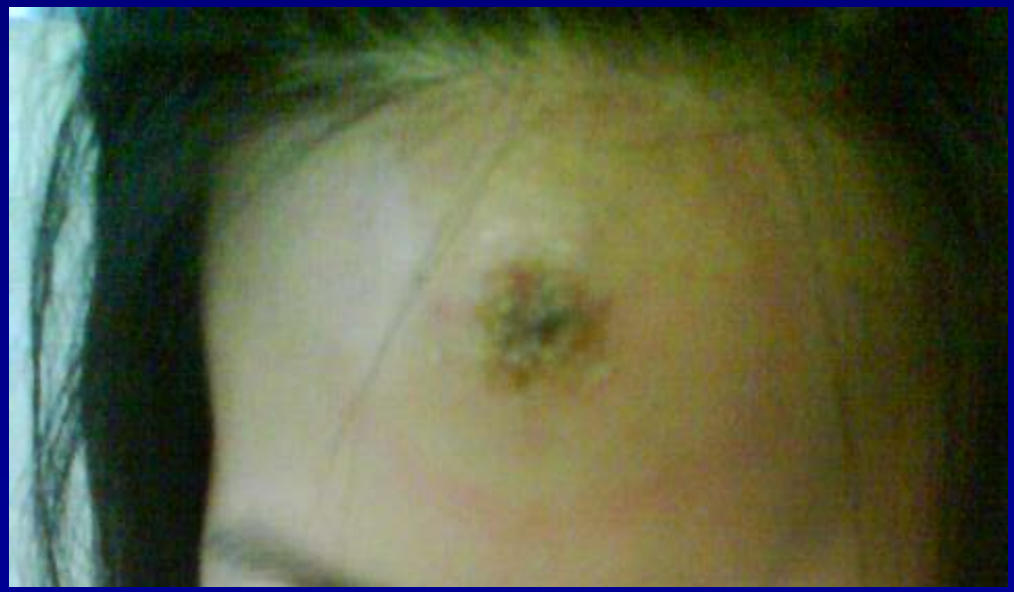
Advised to repeat blood films daily

21 August

Debridement in theatre – 'pus' expressed

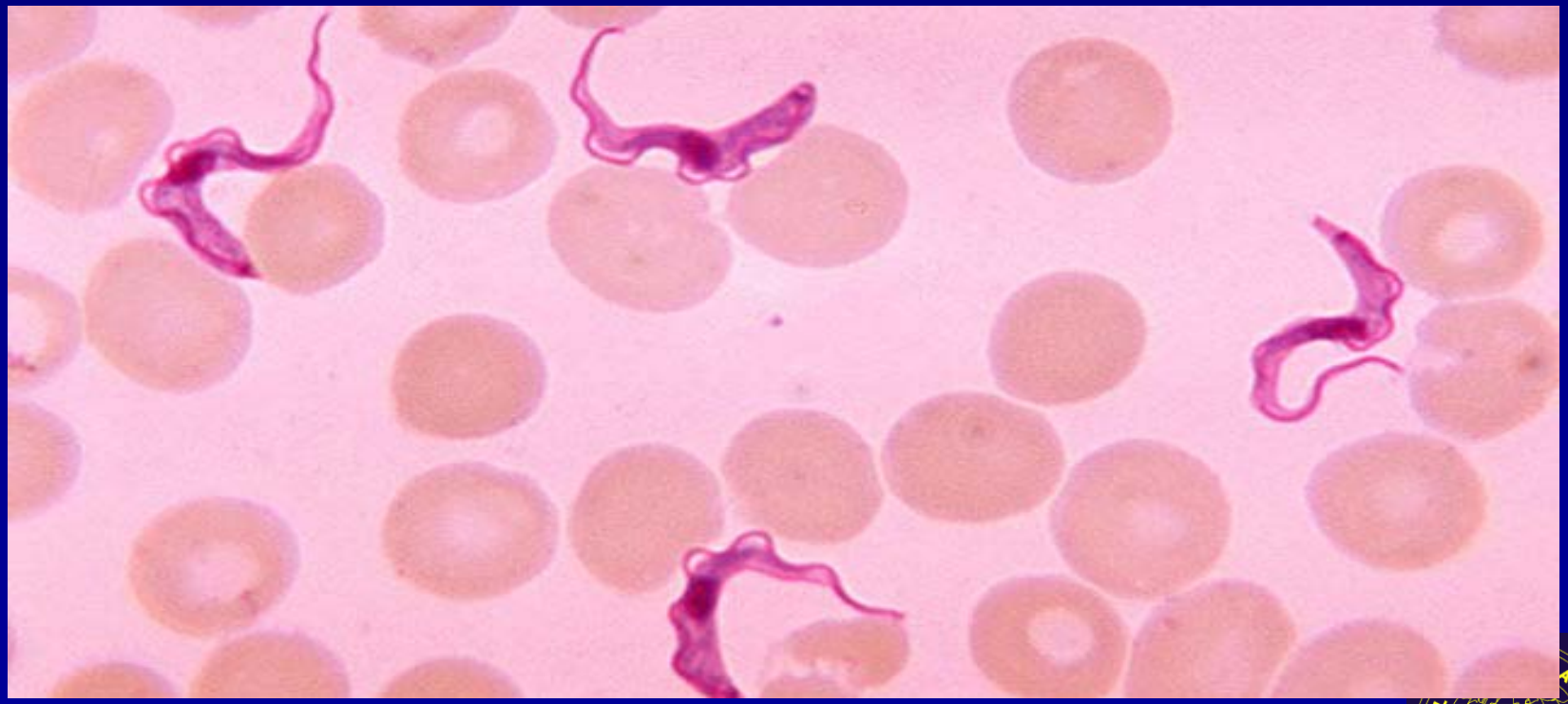
22 August

Adenopathy said to be worsening

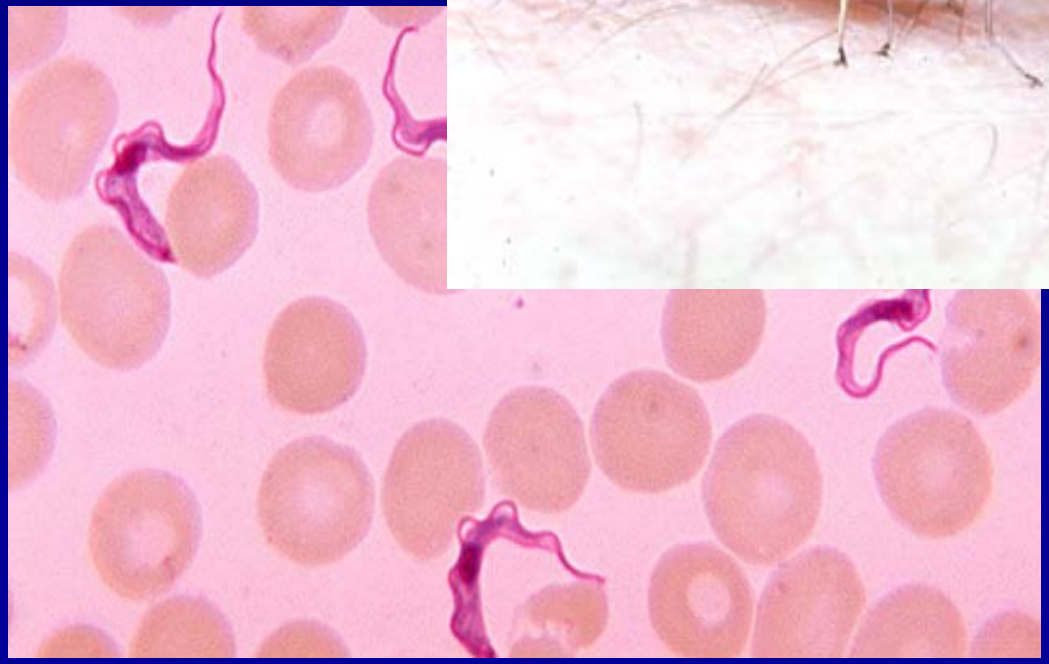


A diagnostic test was performed!

Stage 1 Human African Trypanosomiasis due to T b rhodisiense



CDC Public Health Image Library/Dr. Myron G. Schultz



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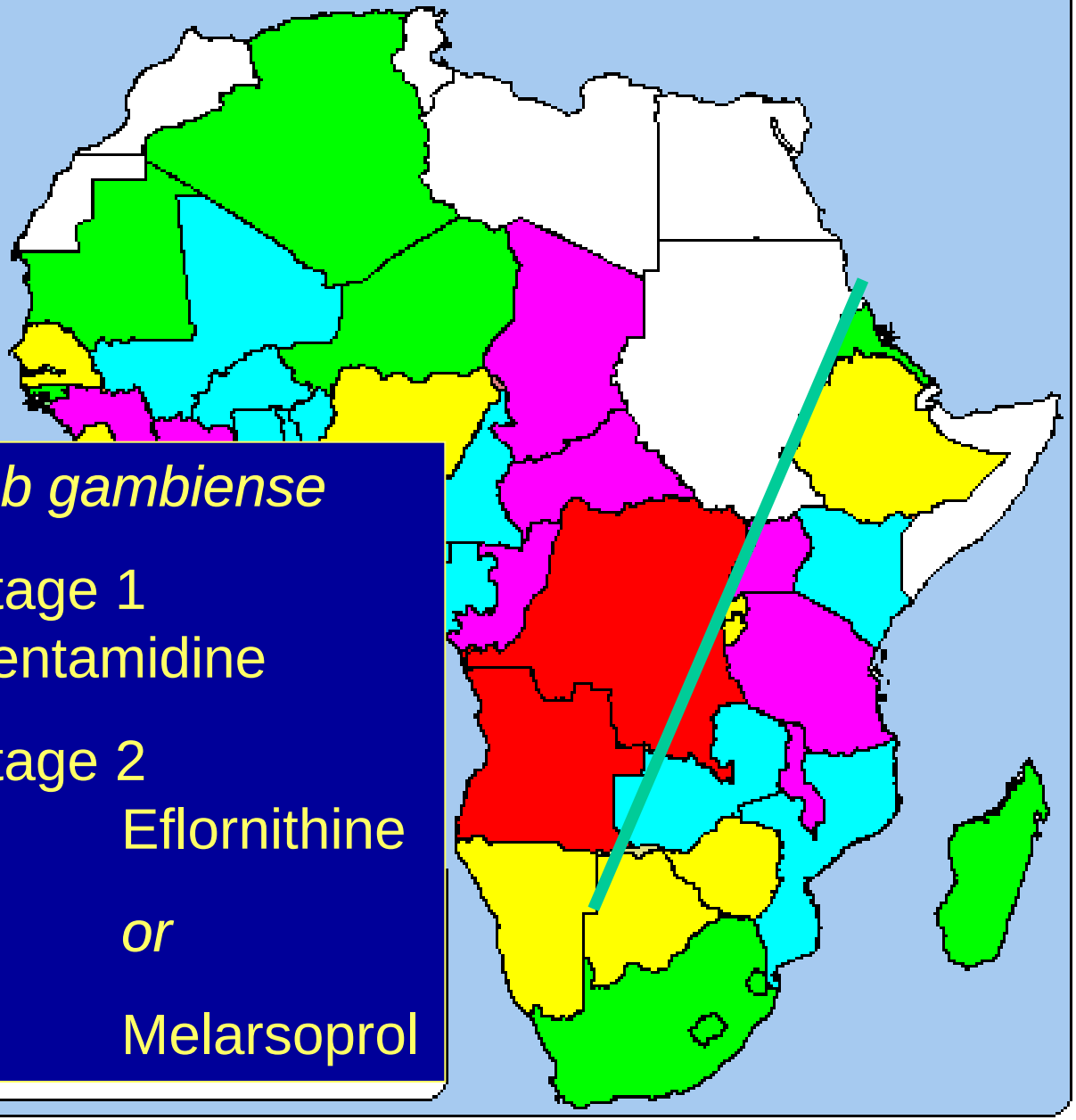
HAT Distribution (WHO 2005)



T b gambiense

Stage 1
Pentamidine

Stage 2
Eflornithine

or

Melarsoprol

T b rhodisiense

Stage 1
Suramin

Stage 2
Melarsoprol

Suramin - In pregnancy?

Rat models

Suramin injected rats a model of pre-eclampsia

Appears not to cross the placenta

- In humans?

Case report in literature of successful use in late 2nd trimester pregnancy

'No evidence that suramin is teratogenic in man', extensively used in onchocerciasis programs with no documented ill effect*

Pentamidine – in pregnancy

Evidence of effect in rat models, though less toxic than suramin

15 published cases of IV pentamidine in pregnant women – no foetal effects noted

Recommended by CDC in pregnancy

Balance of reduced anti-trypanosomal activity vs greater experience in pregnancy

On arrival

Febrile, tachypnoeic, tachycardic

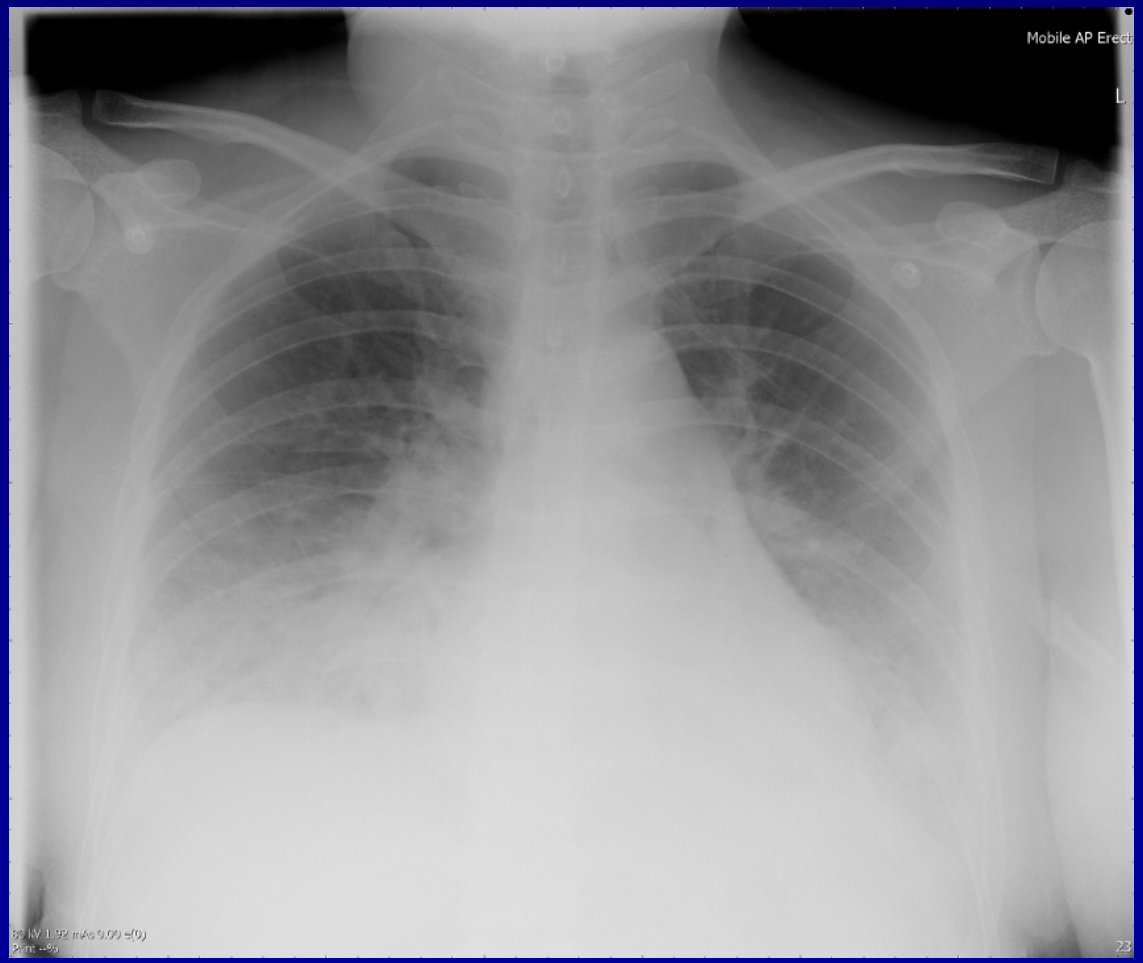
Saturating well on air

Rt basal crepitations

Blds

- Hb 9.5 WBC 1.9 Plt 60
- Mildly elevated liver enzymes
- CRP 230

CXR


Mobile AP Erect
L
23

On arrival

Febrile, tachypnoeic, tacycardic
Saturating well on air
Rt basal crepitations
Blds
- Hb 9.5 WBC 1.9 Plt 60
- Mildly elevated liver enzymes
- CRP 230

CXR
T brucei confirmed in blood film

Treatment

Fluids
IV Ceftazidime
Suramin……
…….out of stock!
- Alternative?

Deteriorating
Worsening shock, acidosis and gas exchange
Plan?

Treatment

Screened for myocarditis – ECG, troponin, echocardiogram

Given pentamidine 4mg/Kg & T/F to ICU

Further management

Obstetric team informed of arrival

Suramin obtained from source in Europe

Treatment continued with suramin & ceftazidime.

Lumbar puncture – CSF blameless

Mild proteinuria

Monitor placental blood flow

Our patient…..

Did very well!

Thank You
Questions?