Eco-Challenge Expedition

Sabah, Borneo

20th August - 3rd September

312 athletes from 26 countries

22 competitors from UK

"The Eco-Challenge is an Expedition Race for teams of adventurers, each team consisting of four men and women combined. The teams race 300 miles non-stop, 24 hours a day… using kayaks, mountain bikes, white water rafts, horses, their feet and climbing ropes.."

September 5th

- 39 year old man presented to HTD with
  - fever
  - headache
  - myalgia
- Eco-Challenge trip to Borneo

Exposure:

- Bitten by leeches
- Bitten by mosquitoes
- Waded through caves with bats
- Swum through rivers, living rough
- Scouring jungle for food and water

Day after coming home

- headache
- rigors
- dry cough
- loose stool for 1 day, slight abdominal cramps
- myalgia

- No other localising symptoms

On examination:

- Seriously fit
- Obvious weight loss
- Alert, orientated
- Temperature 39.4°C, sweaty
- Fungal rash on feet
- Otherwise – NAD

- Investigations?

Results:

Hb	13.4
WCC	9.5
Dø	Nø 8.4
	Lø0.6
	Eø 0.1
Plts	232
ESR	39
CRP	137

Na	134
K	4.3
Urea	8.0
Creat	129
Bili	9
ALT	47
AlkP	54
Alb	34
Glu	6.9

Results:

- Malaria film negative
- Urine dip-stix 1+ protein
- Urine culture: no growth
- Blood cultures: no growth
- Stool OCP:
  - Dientamoeba fragilis + Hookworm ova

Results:

- EBV serology: IgG +
- CMV serology: negative
- Hepatitis A, B, C: no acute infection
- Arboviral serology: IgG + for flavivirus
- Toxoplasma: Latex, Dye test negative
- Leptospiral serology: negative

Results:

- Strongyloides Elisa: negative
- Schistosoma Elisa: negative
- Filarial serology: negative
- Histoplasma Antibody: negative
- Hydatid : negative

Clinical course:

- Patient was treated:
  - Mebendazole for Hookworm
  - Topical antifungal on feet
- Improved after rest in hospital
- Discharged home

September 10th:

- 38 year old man
- Same race, same team, same exposure

- 3 days of headache, fever, myalgia & anorexia

On examination:

- Seriously fit
- Apyrexial
- Conjunctival injection ++
- No rash / jaundice / anaemia / palpable lymphadenopathy

Results:

Urea	20.1*	FBC	normal
Creat	317*		
		CRP	93*
LFTs	normal	ESR	72*

- Malaria film negative
- Stool OCP negative
- Stool culture negative
- MSU 8 WBC, 0 RBC
  Culture negative
- Dark ground microscopy negative

Progress

- Improved clinically
- No specific treatment
- Remained afebrile
- Discharged

September 7th

31 year old Primary School Teacher

Same race, different team

Admitted to another hospital

4 day history of fever, rigors, abdominal pain & headache

Febrile 39.0 °C

Nil else on examination

September 11th:

- Haemoptysis
- Slight confusion

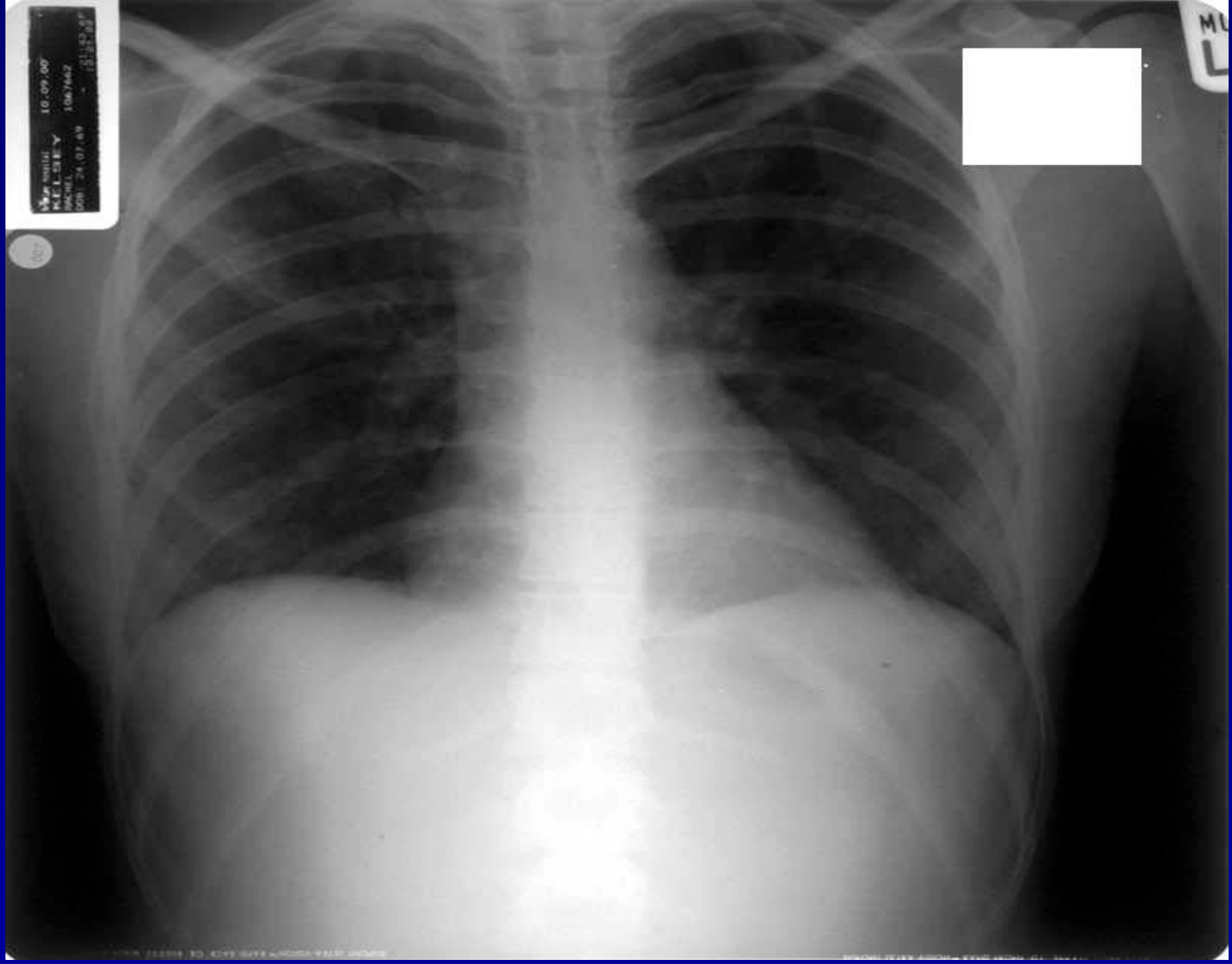
- Transferred to HTD
  - Not unwell
  - Low grade fever
  - No localising signs

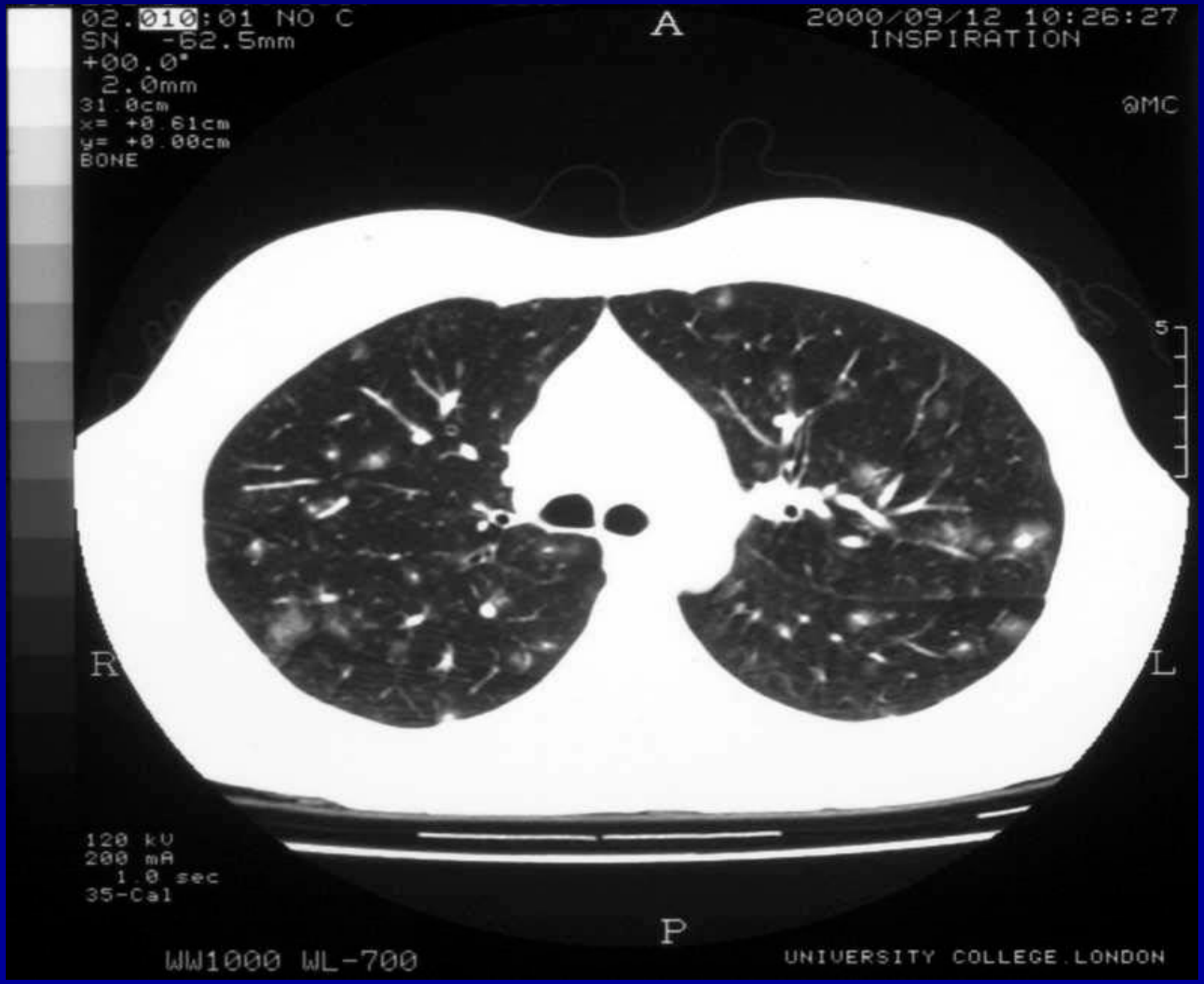
Investigations:

FBC:	normal	no eosinophilia
ESR:	55	
CRP:	68	
U&Es:	normal	
Bilirubin:	6	ALT: 186

Blood, stool & urine cultures - all negative

CXR

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CT Scan report:

There are multiple nodules of varying sizes which are generally small and have a marked halo of ground glass shadowing…

The appearances are typical of haemorrhagic nodules for which there is a wide differential. However, the possibility of acute schistosomiasis should be strongly considered...

Broncho-alveolar lavage: normal

September 15th:

- Dramatically improved
- Afebrile x 36 hours
- LFTs - normalising
- Discharged home

September 18th:

Leptospira microagglutination	positive 1280
Leptospira ELISA IgM	positive 640
L. bataviae microagglutination	positive 1280

Subsequently:

- Case 1: *L. saxkoebing* IgM positive 1:640
- Case 2: Leptospira IgM positive 1:2560
- Case 3: *L. saxkoebing* IgM positive 1:2560

Leptospirosis:

Leptospira interrogans

Over 200 serovars

Over 160 mammalian species, birds & reptiles

L. icterohaemorrhagiae	-	rats
L. hardjo	-	cattle
L. canicola	-	dogs

UK	~ 50 cases/year
France	~ 400 cases/year

Pathogenesis:

Survives for weeks in water

Active penetration of abrasions/intact mucosa

Multiply in blood

After Day 7:

- Hepatic necrosis
- Interstitial nephritis
- Meningo-encephalitis
- Myositis
- Haemorrhage

Clinical features:

Mild infection (> 90%):

- Fever, headache, myalgia - often self-limiting

Moderate (~ 9%)

- Sudden prostration, muscle tenderness, pretibial macular rash, jaundice, pneumonitis

Severe (Weil's Disease) (< 1%)

- Almost always *L. icterohaemorrhagiae*
- Acute hepatic & renal failure
- Extensive haemorrhage
- Myocarditis
- 10% mortality

Diagnosis:

Albuminuria
Red & white cell casts
Abnormal LFTs
Polymorphonuclear leucocytosis
Thrombocytopenia
Dark ground microscopy - blood or urine
ELISA

Treatment:

Doxycycline

or

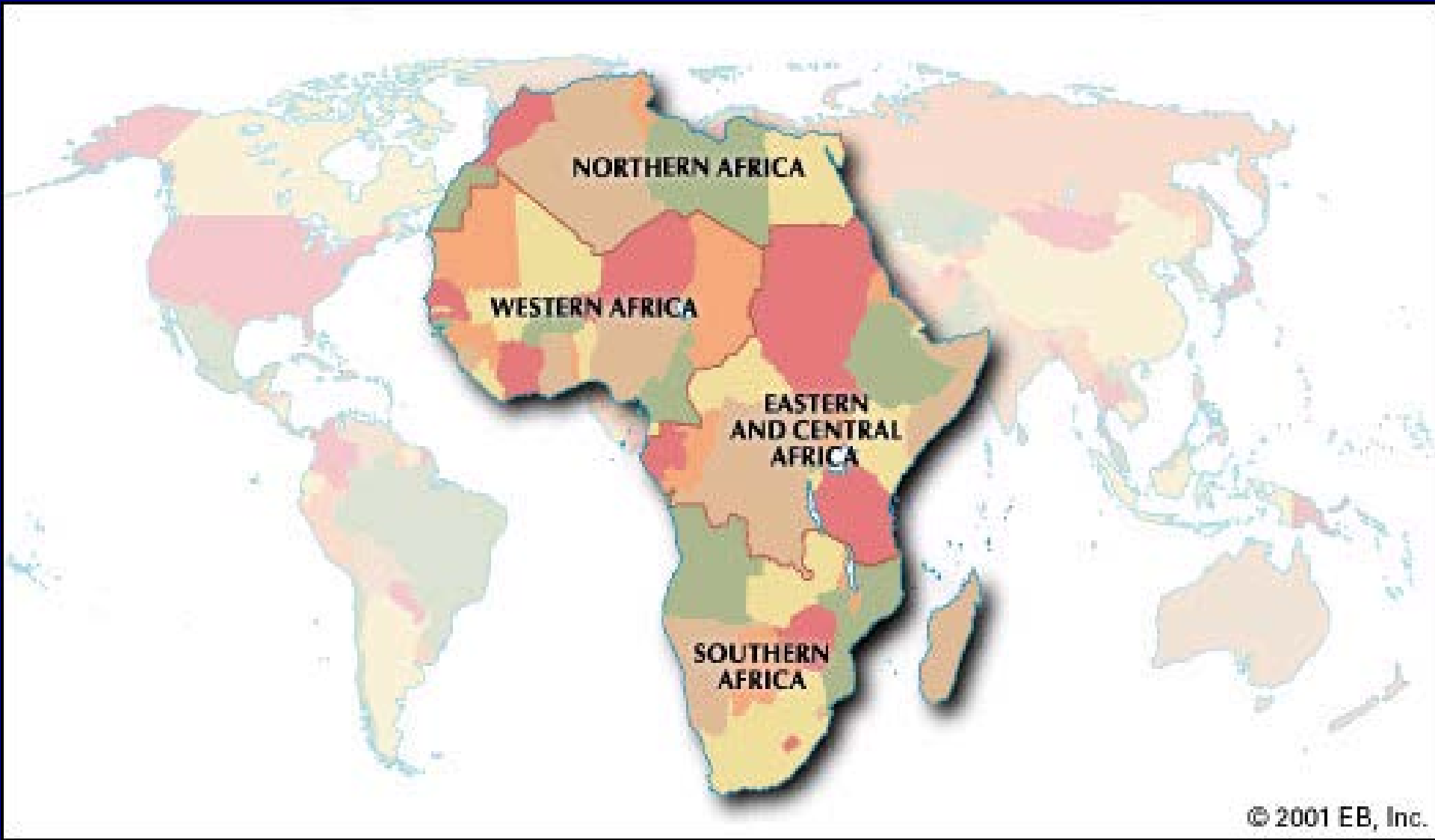
Penicillin

(Jarisch-Herxheimer reactions)

60 year old Swedish woman

- Lives in a small town in Mali where she owns a hotel
- Does not take antimalarials
- Previously well

Africa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60 year old Swedish woman

- 14th August 2015: Fever, diarrhoea
- Self treated with antimalarials and metronidazole
- Diarrhoea improved but fevers continued and felt weak and tired
- After one week went to hospital in Bamako

23rd August

- Investigations: ↑ CRP, ESR, neutrophils
- Possible UTI
- Treated with IV and oral antibiotics
- Fever, nausea, fatigue continued

15th September: Admitted to hospital in Bamako

- ↑CRP, ESR, neutrophils. HIV negative
- Giardia cysts in stool
- CT: oedema of colon and benign liver cyst
- Colonoscopy: suggests inflammatory bowel disease. Biopsies taken
- Treated with metronidazole for giardia
- Diarrhoea improved but fever, nausea and fatigue persisted

October

- Biopsy result: follicular lymphocytic hyperplasia with florid signs of chronic inflammation and islets of histiocytic granulomas
- Impression: Crohn’s Disease
- Physician in Bamako advised treatment with steroids

26th October

- Presented to HTD walk in clinic
- Fever, nausea, extreme fatigue, 4-5 loose stools daily
- Has lost 10kg since August

On examination

- Temp 38^0C
- Abdominal tenderness, especially RUQ
- No masses or organomegaly

Investigations?

Investigations

- ↑CRP, ESR, neutrophils. Hb 95 g/l
- HIV negative
- Stool microscopy:
  - Cysts of *Entamoeba histolytica* or *E. dispar*
- Amoebic serology strongly positive
- Stool PCR: *E. histolytica*

<u>Diagnosis</u>:

- Amoebic colitis and liver abscess

Treatment and Follow up

- Tinidazole 2G daily for 5 days
- Paromomycin 500mg tds for 7 days to eradicate cysts from bowel

10 days later

  - Feels well
  - No more diarrhoea and fevers
- Examination
  - Afebrile, abdomen soft
  - Slightly tender right iliac fossa

Angolan Fever

- 30yr British Female
- Angola on & off for 5yrs
- NGO - logistics, not direct healthcare
- Previously fit & well
- Seen in OPD 18th December

Africa


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Angolan Fever - Initial History

Early November:

- Rigor then headache, lethargy & fever
- Malaria Film & POC test - Negative
- Vomited blood (and did so for 2 weeks)
- Rx: Artesunate & Doxycycline
- No improvement

Angolan Fever - Further History

- Admitted to hospital in Angola
- Malaria & Typhoid ‘negative’
- 5 days Quinine & Antiemetics
- Fever settled
- Developed ‘blotchy’ rash
- Weight loss (total ~ 5kg)
- WBC = 2.0, Plt = 97

Angolan Fever - Further History

- Transferred to Capetown, S. Africa
- Weak, nauseated, vomiting, headache
- Blood tests ‘Normal’
- Back to UK 8th December
- Tired & weak, some dysuria

Further History...

VACCINATIONS

- Up to date with:
  - Yellow Fever
  - Hep A
- No Hep B vaccination
- Occasional malarone prophylaxis

Further History….

- Rural exposure ++
- No direct contact with dead/ill people or animals

- New Angolan sexual partner with unprotected intercourse 3/12 previously

Examination

- Well. Apyrexial.
- No rash. Mouth normal.
- 1cm slightly tender lymph node left posterior cervical triangle.
- Chest clear
- Cardiovascular system normal
- Abdo: Slight tenderness R iliac fossa

Investigations

- Blood film
- FBC
- LFTs
- Hepatitis & Tryps & Schistosoma Serology
- Viral haemorrhagic fever serology
- HIV serology

Initial Results

- Hb 12.0
- WBC 11.2 (Lym 5.3, Neut 4.5, Eos 0.1)
  - some atypical lymphocytes
- Blood films negative for malaria
- LFTs, U&E normal
- Serology negative for hepatitis, trypanosomiasis, schistosomiasis

Further Results

- HIV positive
- VHF serology negative
- CD4 620
- Viral load 500,000

Diagnosis

- HIV seroconversion illness