

TB in Tower Hamlets

Veronica White, Consultant Physician

Barts Health NHS Trust

Epidemiology in 21st century

Worldwide

- 1.7 billion people infected with tuberculosis (TB)
($\frac{1}{3}$ worlds population)
- 10 million new active cases every year
- 1.5 million people die of tuberculosis each year
(only < 1 million related to HIV)

UK in 21st century

- Approximately 5000 cases per annum of TB
- 200-300 deaths
- Approximately 2,200 cases in London
- Approximately 95-100 cases in Tower Hamlets

Why is it a still problem?

- Lazy bacteria
- Not an acute infection
- Can sit around in the body for years
- The bacteria can 'wake up' and cause active disease

How is it spread?

- Person to person when an infectious individual is coughing and someone else in close contact breathes in the bacteria
- Unlike common cold, relatively difficult to catch; 8-9 hours close contact

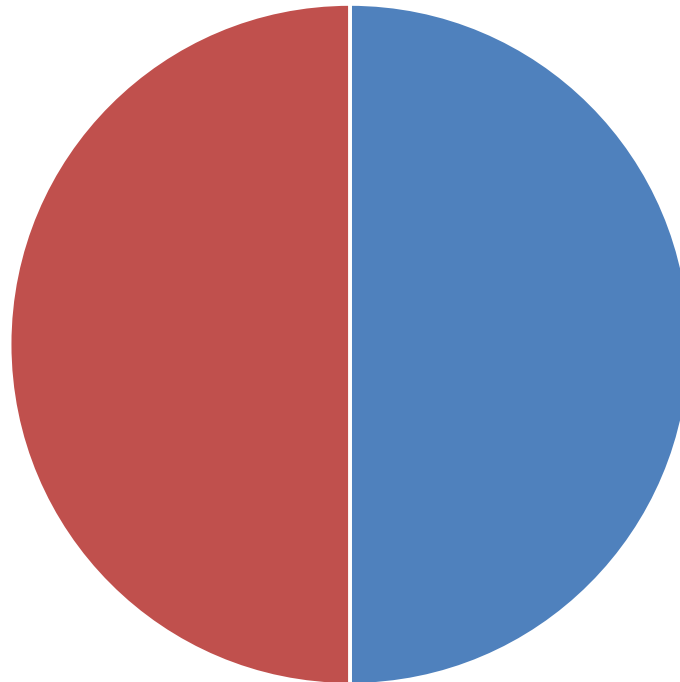
And...

- Vaccine (BCG) only gives partial protection
- Difficult to treat – at least 6 months
- Adherence to medication is a problem
- Side effects
- Stigma and fear surrounds disease

2017

- Patients still dying of TB in Tower Hamlets
- Patients still presenting in A&E with advanced disease
- Health professionals still missing diagnosis
- Patients and public still afraid of TB

And.....



■ Non-pulmonary TB

■ Pulmonary TB

TB Jargon

Active disease -v- Infection

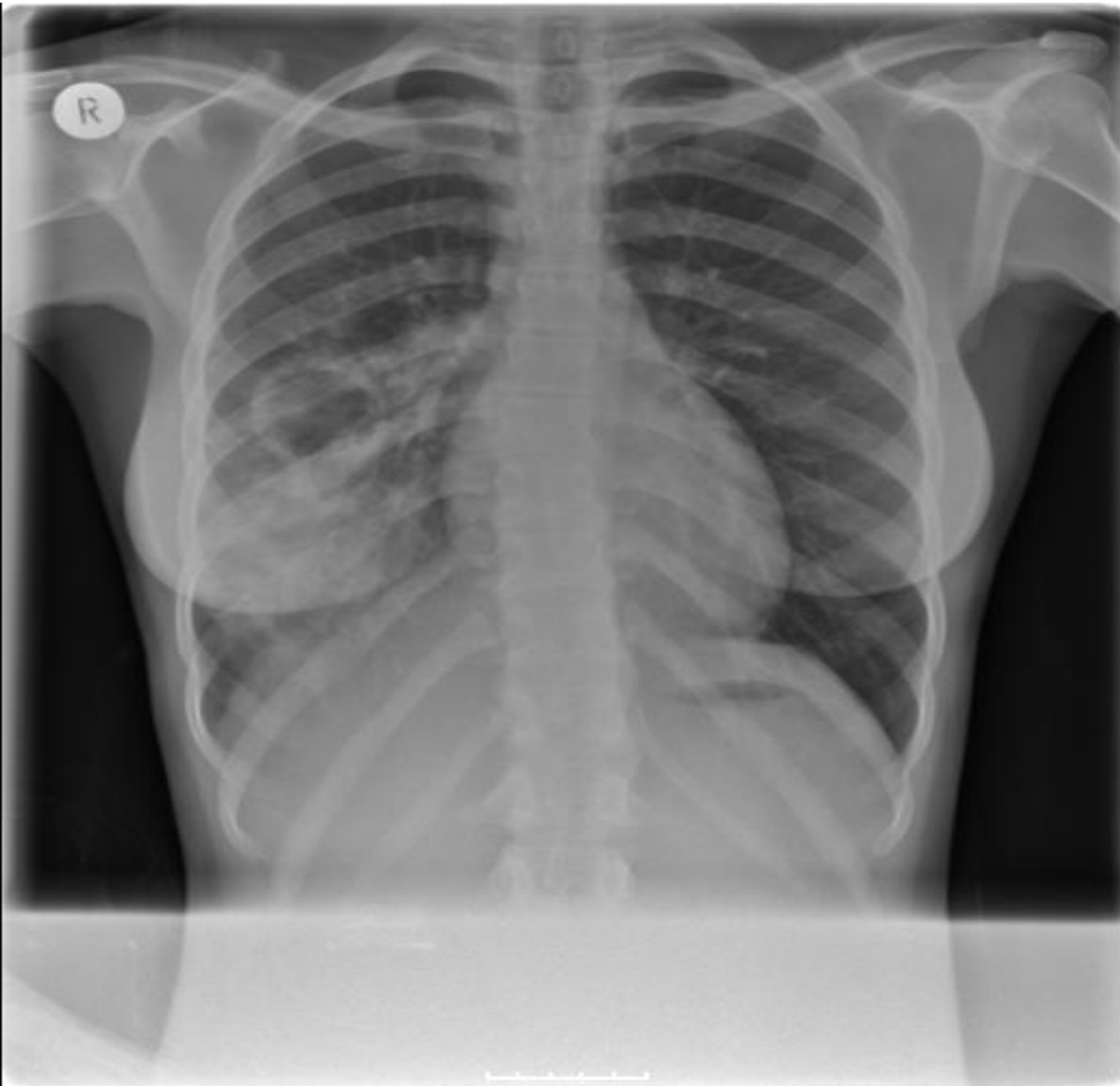
- Active disease: symptomatic, pathological.
- Infection: infected with 'dormant' tuberculous bacterium - not necessarily unwell - 10% lifetime risk of developing active disease (10% per year in AIDS).

Presentation of Tuberculosis

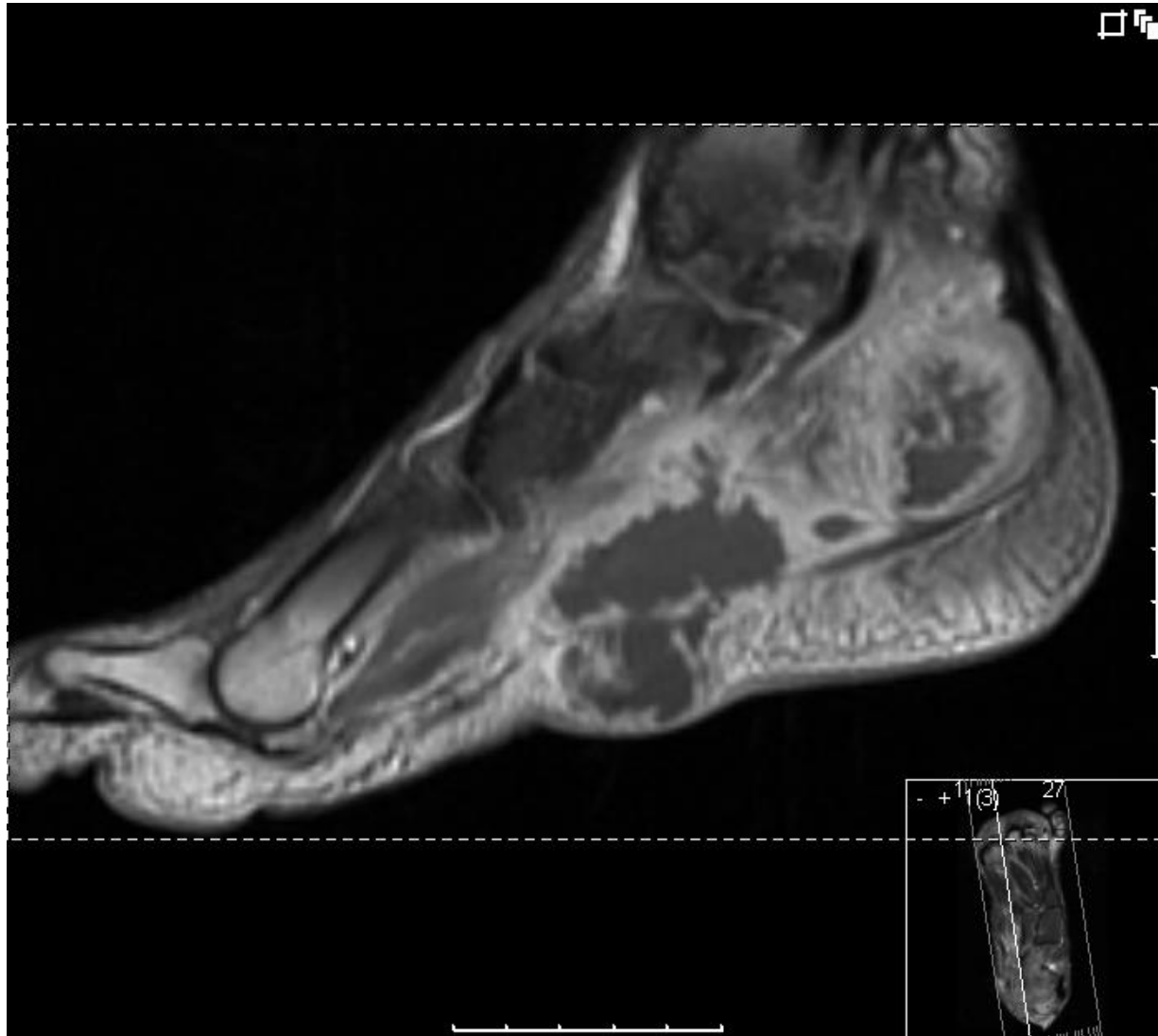
Important history and symptoms to consider:

- Cough
- Haemoptysis
- Fever and night sweats
- Weight loss

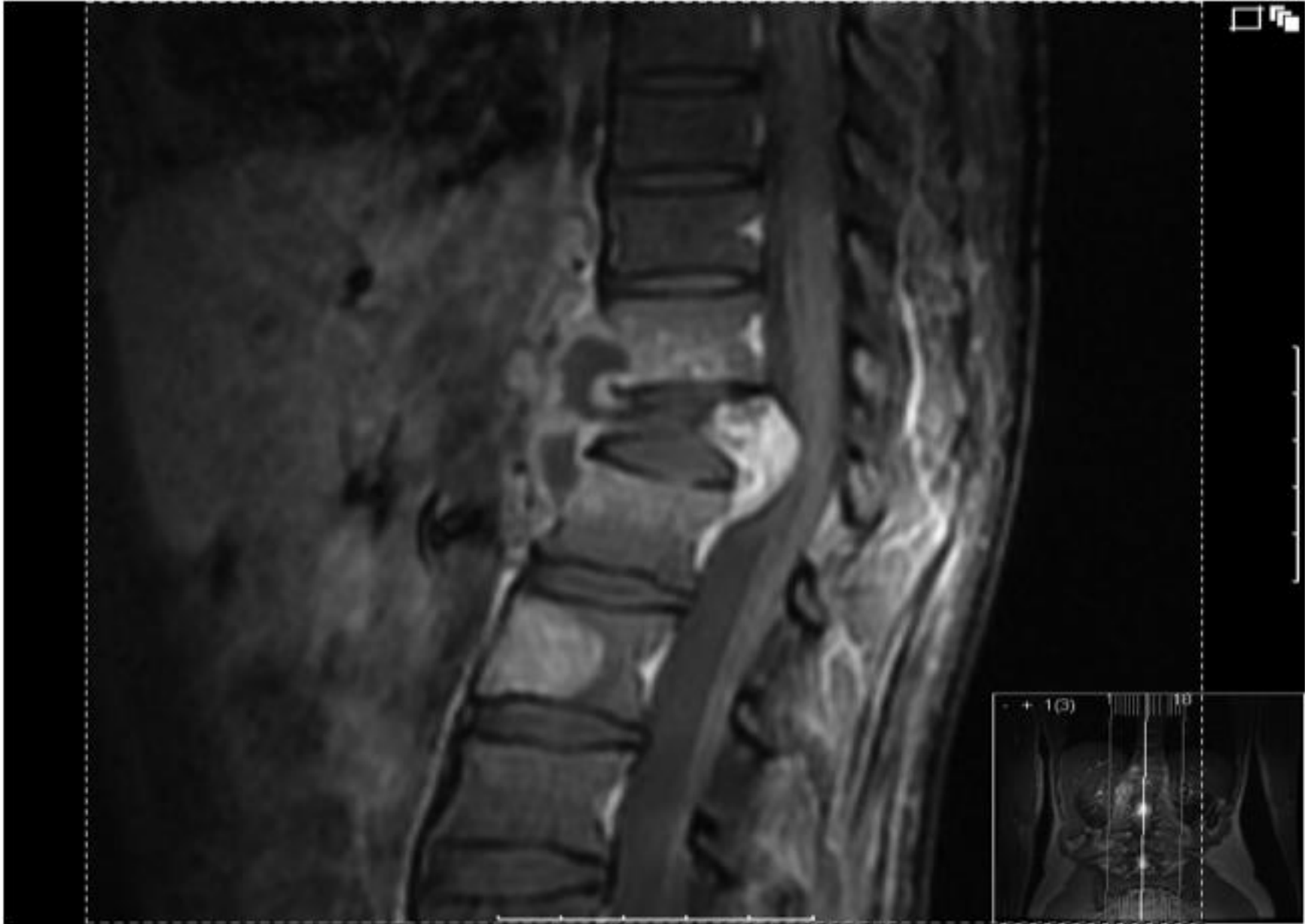


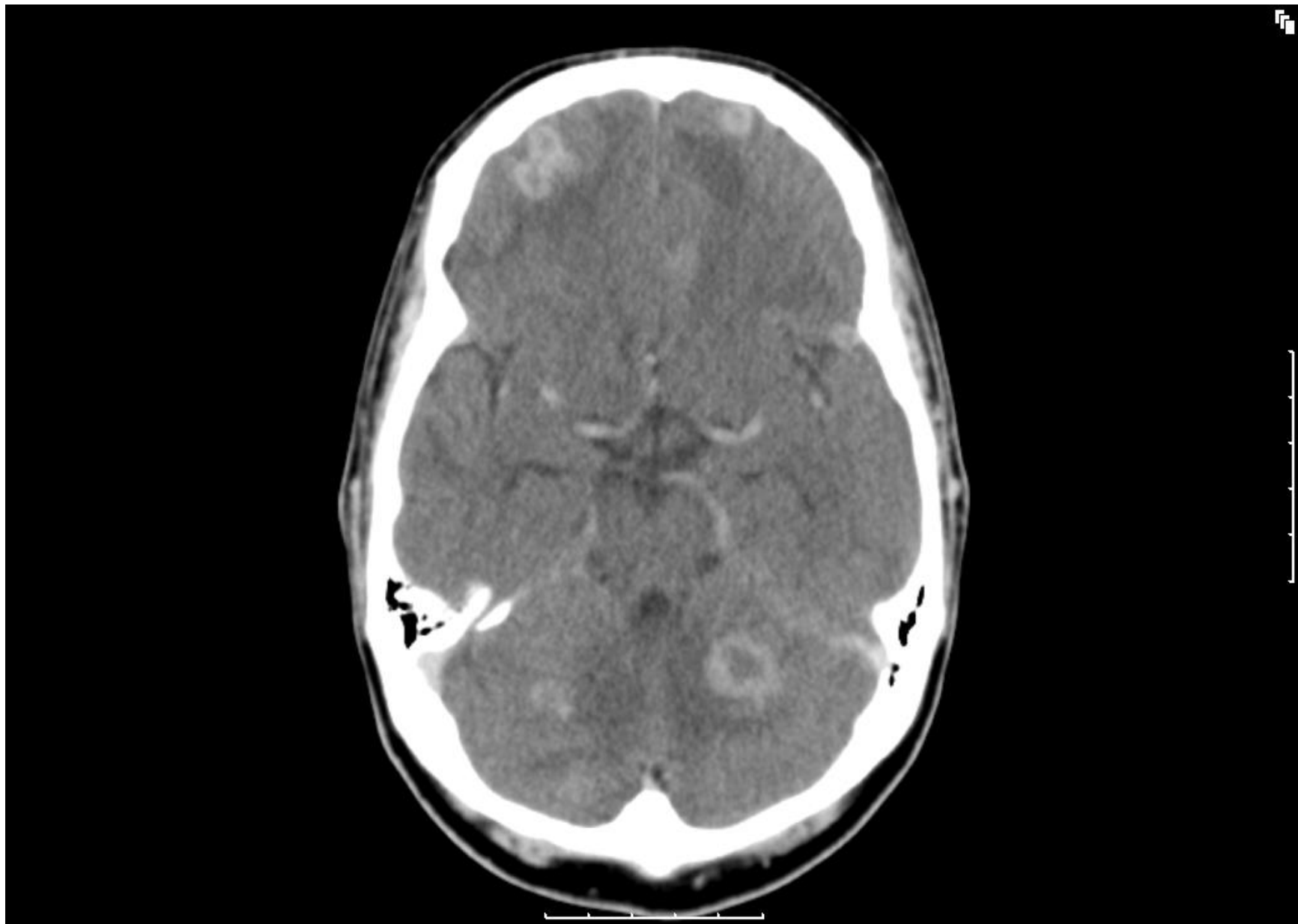


TB of bone









Skin testing

- Mantoux or Heaf test
- Helps to diagnose **infection *not active disease***
- Uses purified protein derivative (PPD) of killed *Mycobacterium tuberculosis*
- Cross reacts with BCG – so will have mildly positive result if vaccinated
- Mainly used as a screening, rather than diagnostic tool

Interferon gamma (IGRA) test

- Blood test that is processed in laboratory
- Incubates blood samples with proteins unique to TB and then measures whether T- cells in the blood secrete gamma interferon
- *Elispot* and *Quantiferon Gold* tests

Treatment and side effects

Standard treatment for fully sensitive active TB:

- Isoniazid – 6 months)
- Rifampicin - 6 months) given as Rifater
- Pyrazinamide – 2 months)
- Ethambutol – 2 months
- Pyridoxine – 6 months

Treatment of latent TB

- Isoniazid – 3 months) given as Rifinah
- Rifampicin - 3 months)
- Pyridoxine – 3 months

Or Isoniazid monotherapy (6 months)

Or Rifampicin monotherapy (4 months)

Side effects

TB DRUGS CAN KILL YOU!!

- Rifampicin is an enzyme inducer that interacts with many other drugs
(e.g. OCP, warfarin, methadone, anti-psychotics)
- Isoniazid tends to be the major cause of liver failure (particularly with hepatitis B&C)

Side effects

- Hepatotoxicity (liver failure)
- Red urine (not haematuria!)
- Nausea, vomiting, reduced appetite (anti-emetic)
- Itching, rash (?anti histamine)
- Arthralgia (pyrazinamide)
- Dizziness, tiredness
- Visual changes – ethambutol (Ishihara/Snellen)
- Peripheral neuropathy - isoniazid