TUBERCULOSIS

Signs, Symptoms and Treatment

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TB in East London

- 700 cases across merged Trust
- 250 seen at LCH; 150 notified in Tower Hamlets
- 1/3 pulmonary; 2/3 non-pulmonary
2013

- 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
Demographics of patients

- Aged 16-35
- 75% born aboard
- 25% have been in UK less than 3 years
- Interactions with medical services maybe poor
Barriers to diagnosis

- Access to health care
- Language barriers
- Expressing/picking up subtle symptoms
- Experience of health professionals
- Health beliefs and stigma
Risk factors

- Socioeconomic deprivation
- Patient from an ethnic minority with a high incidence of TB
- iv drug and/or alcohol abuse
- Family or personal History of TB
- Immunocompromised
- Recent visit to high prevalence area
However…..

Some of our sickest TB patients are:

UK born, BCG positive, HIV negative, teetotal, and ‘middle class’!!!!!
Presentation of Tuberculosis

Important history and symptoms to consider:

- Cough +/- haemoptysis
- Fever
- Night sweats
- Weight loss
Non-pulmonary sites

- Pleurisy (pleural space) - presents with pleural effusion
- Lymph node 'scrofula'
- Bone – osteomyelitis, Pott’s fracture - spine
- Brain - meningitis, tuberculoma
- Skin – 'lupus vulgaris'
- Genitourinary tract - kidneys, prostate, uterus
- Heart - TB pericarditis
Beware the atypical presentation

- Unexplained weight loss, anorexia or fevers
- Confusion with lung cancer
- Swollen lymph nodes
- Recurrent chest or water infections
- Back pain or joint pain and swelling
- Non-healing ulcers or sinuses
- Recurrent abdominal pain
- ‘Tension headache' or depression
Establishing a diagnosis

**Bloods tests:**
- FBC (may be anaemic)
- ESR (may be normal)
- U&E, LFT (baselines)
- Bone profile, Vit D
- HIV, Hepatitis screen

Mantoux testing and IGRAs are not done routinely
Establishing a diagnosis

**Imaging** - Pulmonary: CXR – cavitation, consolidation etc

Non-pulmonary – imaging modality appropriate for organ e.g. US scan (nodes), MRI (bone/brain), CT (abdomen/intra thoracic nodes)

**Microbiology** – FOR AFB! Sputum, pus, biopsy of bone, skin, lymph node etc

**Histology** - granulomas
Establishing a diagnosis

Samples, samples, samples

Make sure they go for AFB, AFB, AFB…!
Lymph node TB

- 25% of cases

- Lymph nodes are enlarged, red/purple, often fluctuant, but cold (‘cold’ abscess)

- 50% cervical; can be mediastinal & elsewhere

- Can present without systemic symptoms; can mimic sarcoidosis/lymphoma
Making a diagnosis

- CXR – any mediastinal nodes? ➔ CT
- FNA for cytology and AFB
- Open biopsy if unsure (or EBUS)
- Important to rule out lymphoma/cancer
Treatment

- Same as pulmonary TB
- Lymph nodes sometimes get bigger on treatment – warn patients!
- Nodes may burst and discharge
- May need steroids (double dose)
Pleural tuberculosis

- In differential diagnosis of any patient with a unilateral pleural effusion
- In a young person, DON’T assume it’s TB
- CT scan and pleural biopsy
- VATS if unsure
Abdominal TB

- Fever, weight loss, abdominal swelling and ascites

- Again – can mimic cancer

- Laparoscopic or radiologically guided biopsies
Abdominal TB

- Liver TB – granulomas on biopsy
- Splenic lesions
- Abdominal lymphadenopathy
- Adrenals
TB of bone

- TB can cause chronic discharging abscesses
- Treated with antibiotics, but not settled
- Often forget to send pus samples for AFB
TB of bone

- Drainage of abscess is helpful
- MRI to exclude osteomyelitis
- Abscesses often dry up quickly on starting treatment
Spinal TB

- **Back pain (95%)**

- **40-50% neurological symptoms** – weakness, paresthesia, bowel symptoms

- **40-50% with systemic symptoms** – fever, night sweats, weight loss
Spinal TB

- Specialist clinic at Barts and the London
- Can carry considerable morbidity
- Often associated with psoas abscess(es)
- May need surgery to stabilise spine
Spinal TB

- Generally good outcome

- Particularly with multilevel disease we may treat for 1 year

- Often given steroids

- Can be left with chronic back pain
Cerebral TB

- TB meningitis and cerebral tuberculosis
- Subtle presentations: headache, depression, psychosis
- Less subtle: sudden loss of consciousness, seizures
Cerebral TB

- MRI is imaging of choice: meningeal enhancement, tuberculoma

- Lumbar puncture, LP, if safe

- Avoid brain biopsy unless diagnosis unclear

- Often treated on a clinical diagnosis with results following....
Cerebral TB

- Outcome – variable

- An associated cerebral vasculitis can occur; hydrocephalus not uncommon

- Often treated with very high doses steroids

- TB treatment for at least one year
Ophthalmic TB

- Close links with Moorfields
- Clinical diagnosis
- Rarely have biopsy samples
- Treat for 1 year
Ophthalmic TB

- Also: eye disease related to but not directly caused by TB – ‘Eales’ disease’

- Look for active TB in other parts of the body

- Sometime treat empirically for six months; often 1 year
In addition:

- Miliary
- Pericardial
- Genitourinary
- Cutaneous/Laryngeal/tonsillar
In addition....

- May be multifocal:

  i.e head and foot; chest and hand, spine lymph nodes
Treatment

Department of Health recommendation:
Drug treatment of TB should be supervised by a hospital physician with a special interest in the disease, (normally a respiratory or infectious disease consultant).

Where organs other than the lungs are involved, shared specialist care (e.g. with neurosurgeons).
Treatment

Six month drug regime

- **Isoniazid** 300mg od 6 months
- **Rifampicin** 600mg od 6 months
- **Pyrazinamide** 2g od 2 months
- **Ethambutol** 15mg/kg od 2 months
Side Effect

- Nausea and vomiting
- Itching
- Skin rash ➔ Steven Johnson syndrome
- Hepatotoxicity
- Peripheral neuropathy
- Arthralgia
- Optic neuritis ➔ blindness
Side Effects

Common issues and remedies:

- **Nausea** – anti-emetics (check LFTs)
- **Itching** – anti-histamines
- **Arthralgia** - paracetamol

*Jaundiced – STOP medication and ring us!*
Treatment

- **Lots of tablets for at least six months!**
- **Patients get bored once they get better**
- **Inadequate treatment can lead to drug resistant disease**
Summary

- Symptoms can be insidious

- Ask about systemic symptoms – often forgotten (by patient and medics)

- Multi-organ disease; TB can occur at any site

- Samples/biopsies are crucial
Summary

- Treatment is for at least 6 months

- Steroid doses may be high (double dose with rifampicin)

- Patients require prolonged medical and social support
Questions?