Infectious causes of bone and joint pain in travellers and migrants

Sarah Logan
ID consultant at HTD
22.7.15
Risk factors

- Ethnicity
- Vitamin D
- Occupation
- Immunocompromise
- Sickle Cell disease
- Vaccination
- Surgery/risk factor for bactereamia
Where have they been?

- Chikungunya
- TB - MDRTB
- Typhoid
- Meliodosis
- XDR Gram negatives
- Group A strep/rheumatic fever
- MRSA
- Brucella
- Borrelia/Lyme
- Coxiella
- Gonococcal
- Reiters-
- chlamydia
- salmonella
- shigella
- yersinia
- HIV
- Parvovirus
- Rubella
- TB - MDRTB
- Brucella
Mr H.S

- 33 year old Punjabi
- UK for 2 years working in a restaurant
- attended GP after a fall on the bus
- Back pain with night sweats 5/52 ?
- ° Weight loss or loss of appetite
- o/e- tender over thoracic spine

- What would you do?
Tuberculosis of the spine

5% of TB notifications in UK

haematogenous, lymphatic or contiguous spread

myelopathy usually due to arachnoiditis/vasculitis rather than direct pressure?
Management

• Transferred to neurosurgical centre
• Aspirate- AFB’s seen, sent for culture
• Treatment: conventional quadruple anti-TB regimen
  i.e rifampicin 600mg
  isoniazid 300mg
  pyrazinamide 2g
  ethambutol 15mg/kg

• Steroids due to spinal cord compression
Call from the lab

- Day 14 - Looks like M.TB
- Genetic test for resistance also +ve
- Likely to be rifampicin and isoniazid resistant

- MDRTB (later confirmed on culture)
- Switched to IV amikacin, pyrazinamide, ethambutol, moxifloxacin, cycloserine
- Amikacin delivered via OPAT
- Tolerated regimen, left with no neurological deficit, still on oral treatment when I last saw.
TB spine management in West London

- Retrospective case notes review

- Pts located from London TB Register & local hospital records

- All patients diagnosed 2000-2008

- Old radiology, paper and computerised records all reviewed where available
Patient demographics

- 118 patients
- 57% male
- Median age 35 years
- 94% born overseas
- Mean UK residency at diagnosis was 10 years
  (range 0-42yrs)
- 83% presented with pain
- Median symptom duration was 4 months
  (range <1-48 months)
- 63% had sought medical advice with symptoms prior to episode when diagnosed
Ethnicity of spine TB patients - Ealing: 2003-2006

- India: 12
- Somalia: 10
- Afghanistan: 1
- Bangladesh: 1
- Srilanka: 1
- Pakistan: 1
- Burma: 2

n = 28
Back Pain Red Flags

- Onset age < 20 or > 55 years
- Non-mechanical pain (unrelated to time or activity)
- Thoracic pain
- Previous history of carcinoma, steroids, HIV
- Feeling unwell
- Weight loss
- Widespread neurological symptoms
- Structural spinal deformity

Ealing Red Flags

- Any age
- From Asian Subcontinent or Africa
- History of weight loss / night sweats / Loss of Appetite
- No history of trauma or very minor
- Past history of tuberculosis
- Immunosuppression
- On examination- any deformity of the spine/visible abscess, Bony tenderness
- Investigations: raised ESR (irrespective of spine X-rays)
- Repeat attendances
Mr OA

- 65 yrs man, swelling of left hand for 18 months

Dudub
Differential?

• Monoarthritis of Left wrist
  – Non infectious
  – Brucella
  – TB

• Other cause of swelling, not in joint
  – TB
  – Non tuberculous mycobacteria
  – Fungal mycetoma
Management

Diagnostic investigation?

• Biopsy of collection
• Micro- AFB’s seen
• GeneXpert- M.TB, RPOB negative
• Commenced on first line therapy, RHZE
• Culture at 18 days- Fully sensitive Mycobacterium tuberculosis.
Rev I

- 65yr Nigerian man
- Sickle Cell Disease
- Prostate Ca- surveillance
- TRUS BX in Lagos
- Attends GP 5 weeks later- painful lump on arm
- Night sweats

- What do you do?
Investigations

CRP 3.9 WCC 3.1
Referred to ortho

- Diagnostic bone biopsy
  - ESBL E.coli (multi drug resistant)
- Extensive debridement and reaming of bone
- Prolonged course of intravenous ertapenem via OPAT.
- Vac dressing to wound
• 8 weeks of IV ertapenem
• Wound healed
• No further night sweats
• Pain better
• Repeat MRI....
Mrs IT

- Nigerian midwife
- Commutes between Port Harcourt and Willesden
- Redo R TKR on 30.1.15
- Off to see family in Nigeria
Attends GP on return
• Well, walking around
• Swabs- MC+S- no growth
• Course of flucloxacillin
• Course of erythromycin
• Referred back to ortho
• Normal bloods
• What do you think they said?
Surely can’t be in joint?

- Superficial exploration of tissue down to fascia
- 6 samples sent
- 3/6- Mycobacterium fortuitum
- Commenced on
  - IV amikacin- via OPAT
  - Po ciprofloxacin
  - Po co-trimoxazole
Are we winning?
10.7.15

• Returns to theatre for first part of 2 stage revision
• Sinus extends into joint
• Cement spacer inserted with amikacin
• Oral Linezolid and Co-trimoxazole
• Cultures in the lab.......
Outpatient parenteral antimicrobial therapy

- Patient needs IVAB
  - Home
  - Outpatients
  - Hospital
- Self/carer/partner
- Nurse
Why ‘do’ OPAT?

– Reduced length of stay (admission avoidance)
– Increased inpatient capacity
– Significant cost savings
– Reduce risk of HCAI
– Improve patient choice and satisfaction
How the service at UCLH operates

• The OPAT week
  – Weekly nurse clinic and Dr clinic
  – Virtual ward round
  – Seeing new ward referrals (Dr and nurse)
  – Telephone liaison with community teams (nurse)
  – Teaching self administration
  – Adhoc appts in addition incl weekends
The team

- Clinical Nurse Specialists
- Consultants- ID and Micro
- SpR
- Pharmacist
- Administrative support
- Vascular access team
OPAT episodes by site of infection
Bone & joint infections

- Prosthetic joint infection: 32%
- Osteomyelitis - non-vertebral: 30%
- Osteomyelitis - vertebral with metalwork: 14%
- Osteomyelitis - non-vertebral with metalwork: 11%
- Discitis: 5%
- Septic arthritis: 5%
- Osteomyelitis - vertebral: 3%
1 each from Bath, Cambs, Beds, WestSussex
October 2012- January 2015

• 230 patients
• 251 episodes of care
• On IVAb’s for 9 days (range 1-175)
• Median Age 53 (IQR 34-82)
Outcomes

• Clinical outcomes- disease specific
• Service outcomes
  – Bed days saved
  – Hospital acquired complications
• Patient satisfaction
Conclusions

• Travel and migration affect the spectrum of Bone and Joint infections we see in UK
• What/who/where/when/why
• Increasing need for OPAT to manage a range of infections