QUESTION 15

A 19-year-old man, who is sexually active and admits to occasional recreational drug use, presents with a three-day history of severe pain over the left sacroiliac area. Examination reveals a temperature of 38°C, pulse rate of 80/minute and blood pressure of 120/80 mmHg. The only other findings are ridged nails and pain on movement of the spine or when pressure is applied to the sacroiliac joints.

Investigations show:

- White cell count 12.5 x 10^9/L [3.5-11.0]
- Haemoglobin normal
- Platelet count normal
- Erythrocyte sedimentation rate (ESR) 50 mm/h [<10]
- C-reactive protein 170 mg/L [<10]

X-rays of the spine and pelvis are normal. The bone scan is shown below.

The most likely diagnosis is:

- A. reactive arthritis following Chlamydia trachomatis infection.
- B. psoriatic arthritis.
- C. gonococcal arthritis.
- D. septic sacroiliitis.
- E. undifferentiated spondylarthropathy.

Although it initially seemed quite complex I think in generally this is quite a simple question related to acute versus chronic disease. Clearly from history and path results this man has an acute illness i.e. 3/7 history with
raised inflammatory markers. The other important issues is the radiological evidence with the spondooarthritidies – generally there are no changes on xray early in the disease and to achieve an early diagnosis MRI is the modality of choice.

So going through the options

A. reactive arthritis following Chlamydia trachomatis infection.

Reactive arthritis – acute non purulent arthritis complicating an infection elsewhere in the body
Associated with B27 antigen

The triad of arthritis, urethritis, and conjunctivitis represents one part of the spectrum of the clinical managentations of reactive arthritis, particularly that induced by Shigella or Chlormydia

Epidemiology
- Western population ReA occures predominantly in individuals who have inherited the B27 gene;
  - particularly associated with Shigella, Yersinia, or Chlamydia (60-85%)
  - less than 50% Salmonella and lower for Campylobacter
  - with HIV, predominantly B27 positive arthritis flares as AIDS advances
- sex ration 1:1
- sub-Saharan Africa ReA and other peripheral spondyloarthritisides have now become the most common rheumatic diseases in Africans in the wake of the AIDS epidemic with no B27 assoication

Etiology
- four Shigella species S. sonnei, S. boydii, S. flexneri, and S. dysenteriae (S. flexneri most often)
- Salmonella sppc, Y. enterocolitica, C. jejunim, and C trachomatis

Clinical features
- Spectrum ranging isolated, transient monarthritis to severe multisystem disease
- Usually antecedent infection 1-4 / 52 before onset of symptoms of reactive disease
- Recent new sexual partner
- Costitutional symptoms common, fatigue, malaise, fever and weight loss
- Musculoskeletal symptoms are usually acute in onset
- Arthritis is usually asymmetric and additive, with involvement of new joints occurring over a period of a few days to 1-2 weeks
- Joints of the lower extremities, espcially the knee, ankly, and subtala, metatsrophangeal and toe interphalangeal joints re the most common sites of involvement
- Arthritis usually quite palif and tense joint effusions are not uncommon esp n knee
- Tendinitis and fasciitis are particularly characteristic lesions, producing pain at multiple insertion sites (entheses) especially the Achilles insertion, the plantar fascia and sites along the axial skeleton
- Soubak abd kiw-back pain are quite common and may be caused by insertional inflammation, muscle spasm, acute sacroiliitis or presumable arthritis in intervertebral articulations
- Urogential lesions may occur throughout the course of the disease
- In males urthrits may be marked or realtively asymptomatic, prostatitis also common
- Ocular disease is common
- Mucocutaneous lesions are frequent

Lab and radiographic findings
- ESR usually elevated during acute phase of disease
- Mild anaemia ma be present
- Acute phase reactants tend to be increased
- Most ethnic groups 50-85% B27 positive
- In early or mild disease radiographic changes may be absent or confined may be absent or confiend to juxtaarticular osteoporosis. With long- standing persistent disease, marginal erosions and loss of joint space can be seen in affected joints. Periostitis with reactive new bone formation is characteristic of the disease, as it is with all the spondyloarthritidies. Spurs at the insertion of the plantar fascia are common
Diagnosis - clinical diagnosis

Treatment - NSAIDS

B. psoriatic arthritis.
Psoriatic arthritis refers to an inflammatory arthritis that characteristically occurs in individuals with psoriasis

Epidemiology – 5-10% in patients with psoriasis
Pathogenesis – immune mediated

Clinical Features
- 60 – 70% of cases psoriasis precedes joint disease
- 15-20% of cases, the arthritis precedes the onset of psoriasis and can present a diagnostic challenge
- frequency in men and woman equal
- Wright and Moll classification psoriatic arthritis (noted in 8 Ann Rheum Dis 2005;64;3-8 P S Helliwell and W J Taylor arthritis Classification and diagnostic criteria for psoriatic)
  1. arthritis of the DIP joints
  2. asymmetric oligoarthritis
  3. symmetric polyarthritis similar to RA
  4. axial involvement (spine and sacroiliac joints)
  5. arthritis mutilans, a highly destructive form of the disease
- Nail changes in the fingers or toes occur in 90% of patients with PsA, compare with 40% of psoriatic patients without arthritis
- Usually gradual in onset

Lab and radiographic
- No specific lab tests ESR and CRP often but not always elevated
- Small % low titres of rheumatoid factor of ANCA antibodies
- Uric acid may be elevated in the presence of extensive psoriasis
- HLA – B27 found in 50-70% with axial disease, but in less than 15-20% in patients with only peripheral joint involvement
- Radiographic features
  - DIP involvement including classic pencil in cup deformity
  - Marginal erosions with adjacent bony proliferation
  - Small joint ankylosis
  - Osteolysis of phalangeal and metacarpal bone with telescoping of digits
  - Periostitis and proliferative new bone at sites of enthesitis

Diagnosis
- clinical

C. gonococcal arthritis.
- Associated with urethritis
- Tend to involve both upper and lower extremities equally, to lack back symptoms and to be associated with characteristic vesicular skin lesions

D. septic sacroiliitis.
E. undifferentiated spondylarthropathy.

Epidemiology
- HLA-B27

Pathology
- Enthesis, the site of ligamentous attachment to bone, is though to be the primary site of pathology in AS, particularly in the lesions around the pelvis and spine
- Sacroiliitis is usually one of the earliest manifestations of AS with features of both enthesitis and synovitis
Clinical

- Symptoms of disease usually first noticed late adolescence or early adulthood
- Median age western countries 23
- 5% patients symptoms begin after age 40
- Initial symptoms is usually dull pain, insidious in onset, felt deep in the lower lumbar or gluteal region accompanied by low back morning stiffness of up to a few hours duration that improves with activity and returns following periods of inactivity
- Bony tenderness
- Common sites include costosternal junctions, spinous processes, ileac crests, greater trochanters, ischial tuberositis, tibial tubercles and heels
- Arthritis in hips and shoulders occurs in 25-35% patients in many cases early in the disease course
- Arthritis of peripheral joints other than the hips and shoulders, usually asymmetric, occurs in up to 30% of patients and can occur at any stage of the disease
- Neck pain and stiffness usually relative late

Initially, physical findings mirror the inflammatory process. The most specific findings involve loss of spinal mobility, with limitation of anterior and lateral flexion and extension of the lumbar spine and of chest expansion
- Pain in the sacroiliac joints may be elicited either with direct pressure or with maneuvers that stress the joints

Radiographic findings

- Radiographically demonstrable sacroiliitis is usually present in AS. The earliest changes by standard radiography are blurring of the cortical margins or the subchondral bone, followed by erosions and sclerosis
- Progression of the erosions leads to “pseudowidening” of the joint space; as fibrous and the bony ankylosis supervene, the joints may become obliterated
- Plain radiographs may be normal for many years
- CT and MRI can detect abnormalities early