HKCEM JCM OSCE

06 March 3013
AED POH
Case 1

• M/52
• Walk unaided to AED
• c/o left foot sprain few days ago during working
• P/E swelling, tender over dorsum of foot
Questions

• What were the X ray findings
  – Avulsion fracture at the base of 2^{nd} MT
  – Widened 1^{st} and 2^{nd} intermetatarsal joint space
  – Old fracture shaft of 3^{rd} MT

• What was the name of the sign showed in X-ray?
  – Fleck’s sign

• What was this injury call?
  – Lisfranc fracture dislocation
• What was the classification of this injury
  – Quenu and Kuss
    • Homolateral, isolated and divergent
• What was the optimal management
  – ORIF
• What were the important complications
  – Acute:
    • compartment syndrome
    • Neurovascular injury
  – Chronic
    • Post-traumatic arthritis causing chronic pain
Case 2

• M/42
• Hx of stepping to nail
• Left sole wound unhealed for 6 months
• P/E: 4mm size ulcer in left sole, discharge +ve
• X ray left foot was taken
Questions

• What was the X ray finding
  – A tiny radio-opacity in the space between 4th and 5th metatarsal bone

• What you were suspected?
  – Retained foreign body in left foot

• What further investigations you would like to do to confirm the diagnosis?
  – Bedside ultrasound
Questions

• Describe the ultrasound finding
  – A 0.45 cm echogenic focus with posterior acoustic shadowing
  – It was located about 0.35 cm from the skin
  – It was surrounded by a hypoechoic halo
• What did you think about the nature of material that caused the problem? (Metal, glass, plastic or wood) Why?

<table>
<thead>
<tr>
<th></th>
<th>Ultrasonic Characteristic</th>
<th>X-ray Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Echogenicity</td>
<td>Shadowing</td>
</tr>
<tr>
<td>Metal</td>
<td>++++</td>
<td>Comet tail artifact +</td>
</tr>
<tr>
<td>Glass</td>
<td>+++</td>
<td>Comet tail artifact +/-</td>
</tr>
<tr>
<td>Wood</td>
<td>++</td>
<td>acoustic shadowing +</td>
</tr>
<tr>
<td>Plastic</td>
<td>+</td>
<td>acoustic shadowing +</td>
</tr>
</tbody>
</table>
• What other investigation you would consider?
  – CT scan
• What is your management?
  – Admit orthopedic for exploration and FB removal
Case 3

- F/59
- c/o: abd pain, vomiting and diarrhea x 1/7
- T 36
- Abd.:
  - Soft,
  - tender over lower abd., G°/R°
  - Mass -ve
Questions

• What bedside investigations you would consider?
  – Bedside glucose test (Hstix 5.8)
  – Urine for multistix (all negative)
  – Bedside ultrasound
• What were the ultrasound findings?
  – A long blind-ended tubular structure
  – The diameter was 1.66 cm
  – There was hypoechoic area at the tip of the structure suggesting of fluid collection

• What was the diagnosis?
  – Acute appendicitis
• What were the ultrasonic features of acute appendicitis?
  – (1) appendix on axial view >6mm in diameter
  – (2) non-compressible
  – (3) aperistaltic appendix
  – (4) peri-appendix fluid collection
  – (5) presence of an appendicolith (echogenic focus with posterior shadowing)
• Name 3 clinical signs of acute appendicitis
  – Psoas sign
  – Obturator sign
  – Rovsing’s sign
• Name one scoring system for acute appendicitis
  – Alvarado scoring system
### Alvarado Score for acute appendicitis

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migratory right iliac fossa pain</td>
<td>1</td>
</tr>
<tr>
<td>Nausea/Vomiting</td>
<td>1</td>
</tr>
<tr>
<td>Anorexia</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sign</strong></td>
<td></td>
</tr>
<tr>
<td>Tenderness in right iliac fossa</td>
<td>2</td>
</tr>
<tr>
<td>Rebound tenderness in right iliac fossa</td>
<td>1</td>
</tr>
<tr>
<td>Elevated temperature</td>
<td>1</td>
</tr>
<tr>
<td><strong>Laboratory findings</strong></td>
<td></td>
</tr>
<tr>
<td>Leukocytosis</td>
<td>2</td>
</tr>
<tr>
<td>Left shift of neutrophils</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>10</td>
</tr>
</tbody>
</table>

5-6 → possible  
7-8 → probable  
>9 → very probable
Case 4

- M/40
- IVDA
- Personality disorder
- c/o LBP for 3 days
- No injury
- Could not walk
Questions

• What were the red flags of LBP?

Red flags for the cauda equina syndrome include:
  • Saddle anaesthesia.
  • Recent onset of bladder dysfunction or faecal incontinence.
  • Major motor weakness.

Red flags that suggest spinal fracture include:
  • Sudden onset of severe central pain in the spine which is relieved by lying down.
  • Major trauma such as a road accident or fall from a height.
  • Minor trauma, or even just strenuous lifting, in people with osteoporosis.
  • Structural deformity of the spine.

Red flags that suggest cancer or infection include:
  • Onset in a person over 50 years, or under 20 years, of age.
  • History of cancer.
  • Constitutional symptoms, such as fever, chills, or unexplained weight loss.
  • Intravenous drug abuse.
  • Immune suppression.
  • Pain that remains when supine; aching night-time pain disturbing sleep; and thoracic pain (which also suggests aortic aneurysm).

The basis for these red flag recommendations is from the synthesis of national and international guidelines which are largely based on expert opinion.
Reproduced from Back pain (low) and sciatica.
• What were the X ray findings?
  – Loss of lumbar lordosis
  – Decreased disc space of L3/4
  – Bone erosion in L4 body and upper end plate
• What were the differential diagnosis?
  – The DDx of non-traumatic LBP
    • Degenerative spondyloarthropathy
    • Infective (osteomyelitis, intraspinal abscess)
    • Inflammatory spondyloarthropathy (AS, IBD, psoriatic spondylitis, Reiter’s syndrome)
    • Vascular (spinal epidural haematoma)
    • Malignancy (primary or secondary)
• What other imaging Ix you would consider?
  – MRI lumbar spine
• How to manage this patient?
  – Admit orthopedics
    • exploration and decompression in spinal canal
    • surgical drainage of epidural abscess
Case 5

- M/35
- Amateur body builder
- c/o sudden sharp pain in left upper arm while practicing weight lifting
Questions

• Describe the abnormality showed in the clinical photo
  – A bulge in the upper arm above the elbow, with a dent closer to the shoulder

• What was the sign called?
  – 'Popeye' sign

• What bedside investigation would help in diagnosis in ED?
  – Bedside ultrasound
• Describe the ultrasound findings
  – Figure 1 showed the short axis view at the proximal bicipital groove, there was loss of normal biceps tendon (long head), the groove was filled with hypoechoic fluid instead
  – Figure 2 showed the short axis view at the distal bicipital groove, the biceps tendon had a heterogeneous echogenicity signifying some degree of tendon tear. There was also hypoechoic fluid collection around the tendon
  – Figure 3 showed the composite long axis view, there was partial tear of the bicep tendon with surrounding hypoechoic fluid collection
• What was the diagnosis?
  – Partial rupture of the long head of biceps

• What were the management options for the patient?
  – Conservative (treatment of choice of less physically demanding person)
  – Operative, (preferred in this case as the patient is an amateur athlete)