IAEA/ESNM Webinar Series on Paediatric NM
Paediatric non oncologic bone scintigraphy

Self-assessment questions

Q1: Which of the following propositions concerning the bone phase view below is/are correct?
   1. The hot focus located on the right ischiopubic branch is pathological
   2. The hot focus located on the right ischiopubic branch is a urinary artefact
   3. The hot focus located on the right ischiopubic branch is a fracture
   4. The hot focus located on the right ischiopubic branch is a normal variant

Answer: 4

Q2: In a child with suspected bone infection, whose symptoms began 48h previously, which of the following propositions is/are correct?
   1. Normal plain radiography has good negative predictive value
   2. Normal ultrasound has good negative predictive value
   3. A normal bone scan has good negative predictive value
   4. A 2- or 3-phase acquisition is recommended

Answer: 3 and 4

Q3: Which of the following propositions concerning the bone scintigraphy below, in an 8-year-old boy complaining of foot pain for 4 days, is/are correct?
   1. The blood pool view shows hyperemia of the left calcaneum
   2. The delayed view favors bone infection
   3. A whole body scan is not useful
   4. The effective dose is less than 10 mSv
Answer: 2 and 4

Q4: Which of the following propositions concerning the bone phase view below is/are correct?
   1. It is the normal scintigraphic aspect of the spine in children
   2. There is decreased tracer uptake by L5 and S1
   3. The bladder is too full to visualise the lumbosacral junction
   4. The most probable diagnosis is spondylodiscitis

Answer: 4

Q5: Which of the following propositions is/are correct?
   1. Before 5 years of age, the most frequent cause of limping is Legg-Perthes’ disease.
   2. To diagnose Legg Perthes’ disease, SPECT CT is more sensitive than pinhole acquisition
   3. Legg-Perthes’ disease is associated with femoral head hypo fixation.
   4. Femoral head healing begins on the internal side

Answer: 3

Q6: Which of the following propositions concerning the bone phase view below is/are correct?
   1. It is acute osteomyelitis
2. It is a Toddler fracture  
3. It is probably an osteosarcoma  
4. It is due to urine on the pyjamas

Answer: 2

Limping child, with a “flu-like syndrome”

Q7: Which of the following propositions is/are correct?
   1. Toddler fracture is a spiroid fracture without displacement  
   2. In the youngest children, a spinal infection may be discitis.  
   3. Long-bone metaphysis are well vascularized, and their infection is rare.  
   4. Bone infection in children is always accompanied by clear biological abnormalities.

Answer: 1 and 2

Q8: Which of the following propositions is/are correct?
   1. At the age of 2 months, a Toddler fracture may not be accidental.  
   2. In case of lumbar pain in an adolescent, SPECT is recommended to rule out spondylosis.  
   3. A bone scan can be used to evaluate bone viability, even in the presence of a metal screw.  
   4. The most frequent scintigraphy aspect of osteomyelitis is hyperemia on the blood pool view and hyper fixation on the delayed view.  
   5. All of the above

Answer: 5

Q9: Which of the following propositions concerning the bone phase view below is/are correct?
   1. The linear image on the right foot suggests a fracture of the calcaneum  
   2. The linear image on the right foot suggests a fracture of the cuboid  
   3. The aspect of the left foot is normal for age  
   4. A plantar view can be obtained by placing the child’s feet directly on the gamma camera
Limping child, 3 years old, without fever

Q10: Which of the following propositions concerning the bone phase view below is/are correct?

5. This infant probably has bilateral sinusitis
6. This infant probably has neuroblastoma with invasion of the skull base
7. This is a normal skull for a 5-month-old infant
8. This infant probably has bone dysplasia

Answer: 3