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History

28 years old female presented with history of road traffic accident 9 months back. Her fractures were internally fixed. Recently she was presented with history of painful swelling over right gluteal region. A three phase bone scan was performed with 25 mCi of Tc-99m MDP (methylene diphosphonate).

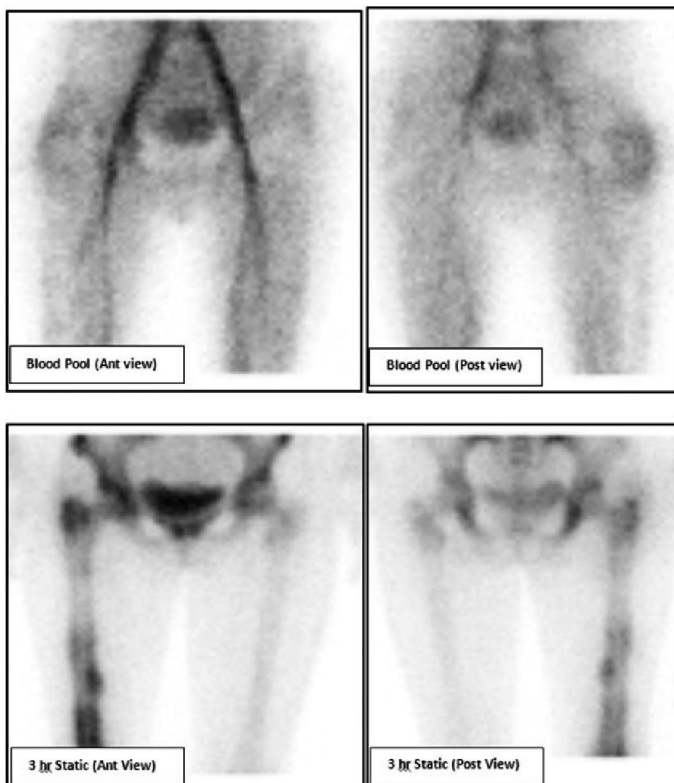


Figure 1: Three phase bone scan (anterior and posterior blood pool and images of pelvic region)



Figure 2: Three hours delayed anterior and posterior whole body static images.

Questions

Q1. What abnormal findings are seen on this bone scan?

QUIZ

Answers

This three phase (dynamic) bone scan has multiple findings:

- a. A well-defined and well circumscribed area of increased blood pool activity over right gluteal region with no concomitant uptake on delayed images. This is consistent with cellulitis (abscess) of gluteal region with no evidence of osteomyelitis.
- b. There is evidence of enhanced tracer uptake over right femoral shaft with a linear shaped central lucency and symmetrical blood pool activity over proximal 2/3rd of right thigh. Findings are consistent with increased osteoblastic activity over site of internal fixation with an intramedullary nail (lucency) and no evidence of osteomyelitis as blood pool is normal.
- c. Bilateral hydronephrosis with irregular outline of right kidney (cortical scarring) and calyceal stasis on left side.
- d. There is a "dent" over right iliac crest, representing the donor site for bone grafting at site right femoral internal fixation.
- e. An area of increased tracer uptake over distal part of right humerus representing healing site of fracture.