Image in Medicine

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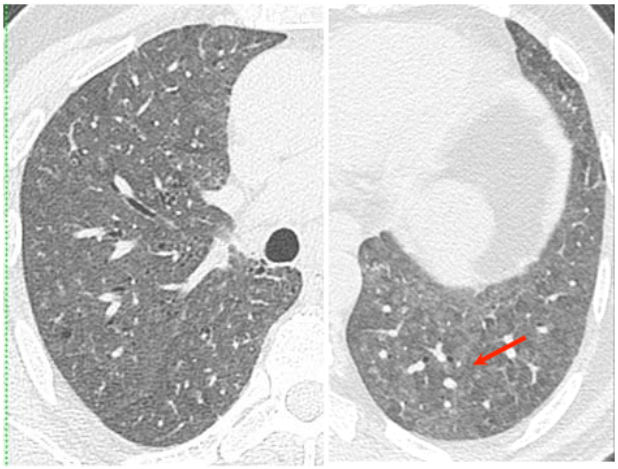
Quiz 1

CT scan images of a 45 year old smoker presented with cough since 15 days.

Questions :

(1) What is the most likely diagnosis in this clinical context?
(2) What are the common smoking related interstitial lung diseases?
(3) What are the other differentials of ill-defined bronchocentric nodules?



Answers :

(1) Widespread ill-defined bronchocentric nodules and ground glass opacities are seen diffusely scattered in both the lungs. In the given clinical context, these findings are in favour of respiratory bronchiolitis.

(2) The common smoking related interstitial lung diseases include respiratory bronchiolitis (RB), respiratory bronchiolitis – ILD (RB-ILD), desquamative interstitial pneumonia (DIP), pulmonary Langerhans cell histiocytosis (PLCH).

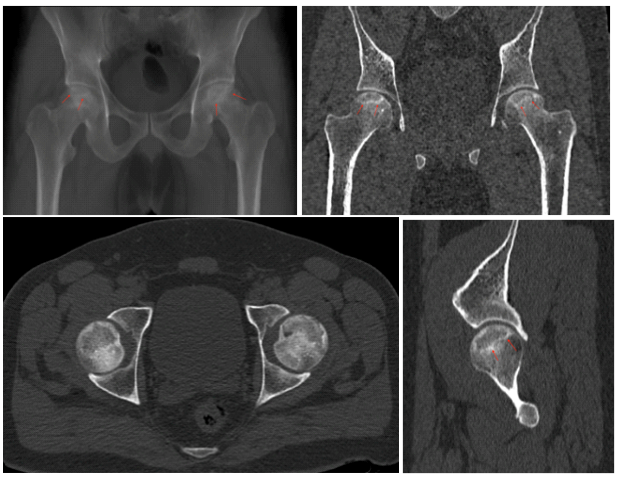
(3) The other differentials of ill-defined bronchocentric nodules are acute inflammatory hypersensitivity pneumonitis, inflammatory bronchiolitis, pulmonary infiltrates with eosinophilia and infectious bronchiolitis.

Quiz 2

A 34-year-old man presented with pain in both hip joints since 1 month following high dose oral steroid treatment.

Questions :

(1) What is the diagnosis?
(2) What are the stages of avascular necrosis of hip?
(3) Which is the most sensitive imaging modality to diagnose avascular necrosis?



Answers :

(1) Geographical areas with sclerotic rim are seen in head of femur on either side. Findings are suggestive of avascular necrosis of head of femur.

(2) The Ficat and Arlet classification uses a combination of radiographs and MRI to stage avascular necrosis of the femoral head.

Stage I

Radiograph : Normal or minor osteopenia.

MRI: Marrow edema.

Stage II

Radiograph: Mixed osteopenia and scleosis +/- subchondral cysts, without any subchondral lucency.

MRI: geographic defect

Stage III

Radiograph: Crescent sign (subchondral lucency) and eventual cortical collapse.

MRI: Crescent sign, unstable osteochondral fragment, collapse

Stage IV

Radiograph: End stage with secondary degenerative changes.

MRI: same as radiograph

(3) MRI is the most sensitive imaging modality as in early stage, it can well demonstrate marrow edema. It is also more sensitive in identifying subchondral fractures and osteochodral fragments.

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