

Image in Medicine

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Quiz 1

Axial CT scan images of 58 year old male presenting with dyspnea for many years.

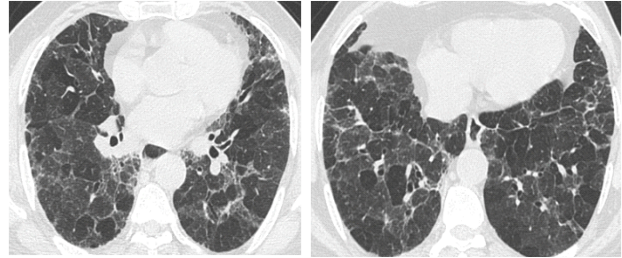
Answers :

(1) "Triple-density sign" - which includes ground glass opacities (high attenuation), patchy air trapping (low attenuation) and normal lung tissue. Previously it has been referred to as the "headcheese sign".

(2) Fibrotic hypersensitivity pneumonitis (HP) - HP is an inflammatory and/or fibrotic disease affecting the lung parenchyma and small airways. It typically results from an immune-mediated reaction provoked by an overt or occult inhaled antigen in susceptible individuals.

Questions :

- (1) What pattern is shown?
- (2) What is the diagnosis?
- (3) How do we classify hypersensitivity pneumonitis?



(3) HP was historically categorized as acute, subacute, or chronic. Now it is categorized as either fibrotic or nonfibrotic HP. The HRCT findings can further categorize these as "typical HP", "compatible with HP" and "indeterminate for HP". Ground glass, mosaic attenuation, ill-defined centrilobular nodules and air trapping are seen in non-fibrotic HP whereas coarse reticulation with parenchymal distortion, traction bronchiectasis, ill-defined centrilobular nodules, air trapping and triple-density sign are seen in fibrotic HP.

Quiz 2

Coronal and axial CT scan images of 4 year old male presenting with swelling in leg since 4 months.

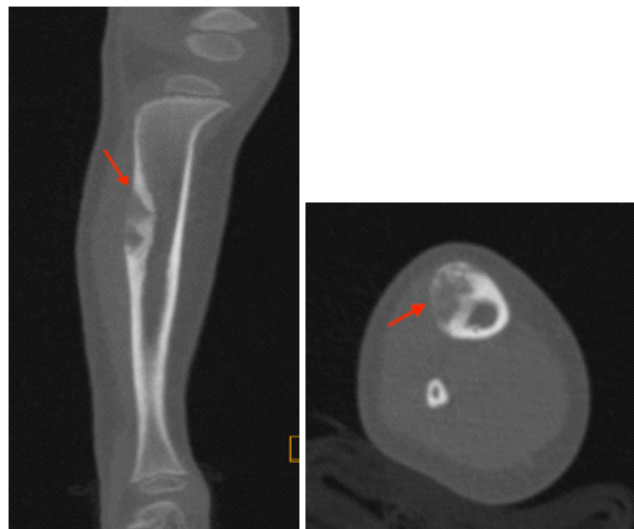
Answers :

(1) An expansile osteolytic lesion with surrounding sclerosis is seen involving anterolateral cortex of diaphysis of tibia, with focal thinning of cortex and no obvious soft tissue component. An image guided biopsy was performed, which confirmed the diagnosis of **osteofibrous dysplasia**.

(2) Osteofibrous dysplasia is a benign fibro-osseous cortical lesion, that occurs exclusively in the tibia and fibula in mid-diaphysis. It has narrow zone of transition with surrounding sclerosis. Periosteal reaction or nidus is not associated with this lesion.

Questions:

- (1) What is the diagnosis?
- (2) What are the radiographic features of this lesion?
- (3) What are the differential diagnosis?



(3) Adamantinoma is a close differential as these are also common in tibial diaphysis, however they are locally aggressive tumours, which appear as expansile osteolytic cortical lesions whereas osteofibrous dysplasia show more ground glass texture on CT. Adamantinoma presents in 2nd to 3rd decade whereas osteofibrous dysplasia is common in younger age group. The other differential is ossifying fibroma.

Picture This by Jankharia, Mumbai, Maharashtra
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