Imaging Sciences Interesting Cases

CASE 469

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CLINICAL PRESENTATION: Patient is an 86-year-old female with shortness of breath.

IMAGING FINDINGS: Findings are consistent with amiodarone induced pulmonary toxicity.

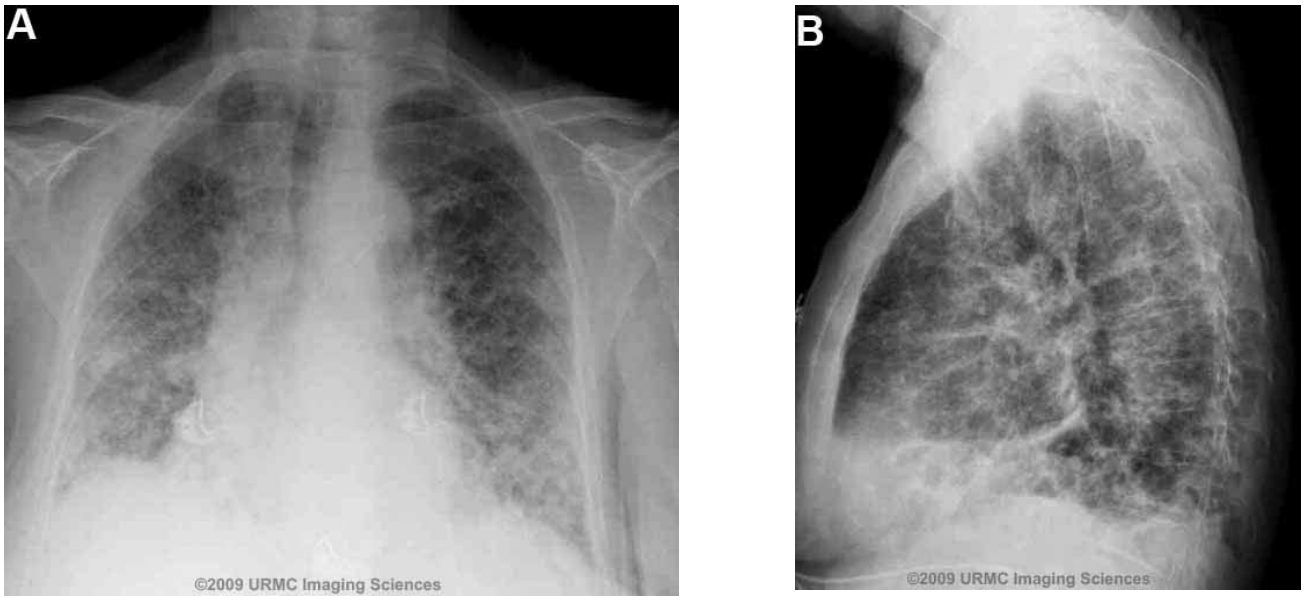

Figure 1A&B: PA and lateral chest radiographs demonstrate diffuse interstitial thickening with areas of alveolar disease and small bilateral pleural effusions.

Figure 2: High resolution CT images demonstrate advanced interstitial lung disease with fibrosis distributed throughout the upper and lower lungs and small bilateral pleural effusions.

Figure 3: Axial CT slice through the abdomen shows a high-attenuation liver when compared to the spleen.

Figure 4: A CT slice through the expected level of the thyroid shows little to no thyroid parenchyma.

DIAGNOSIS: Amiodarone induced pulmonary toxicity

DISCUSSION: Amiodarone is commonly used to treat ventricular tachyarrhythmias. Pulmonary toxicity occurs in about 5-10% of patients using the drug and usually happens within months of starting therapy. Risk of developing pulmonary disease is independent of duration of therapy but is higher in those taking a dose greater than 400 mg or if the individual is elderly. Since amiodarone is about 37% iodine by weight it results in characteristic high attenuation accumulation in the lung, liver, and/or spleen. Thyroid disease is also very common with use of the drug.

The most common cause of amiodarone pulmonary toxicity is nonspecific interstitial pneumonia (NSIP). With early disease chest radiographs show heterogeneous opacities while CT can show scattered or diffuse areas of ground glass opacity. Later, the disease develops into fibrosis, traction bronchiectasis, and honeycombing. Pleural inflammation presenting as effusions are also common. Bronchiolitis obliterans organizing pneumonia (BOOP) also known as cryptogenic organizing pneumonia (COP) is a less common presentation consisting of focal homogeneous pulmonary opacities resulting from fibroblast proliferation. These infiltrates are usually peripheral and of higher attenuation in amiodarone toxicity. BOOP usually occurs simultaneously with non-specific interstitial pneumonitis (NSIP). As mentioned above, high attenuation accumulation in lung, liver, and/or spleen is very characteristic of amiodarone use.

If disease is recognized early the prognosis is good after discontinuation of the drug. Other therapies such as steroids may be used with more severe disease.

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