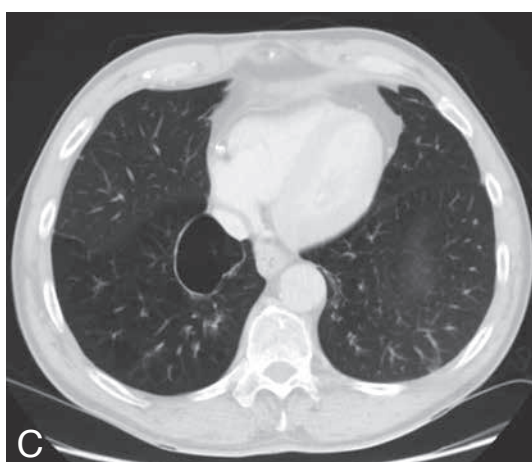
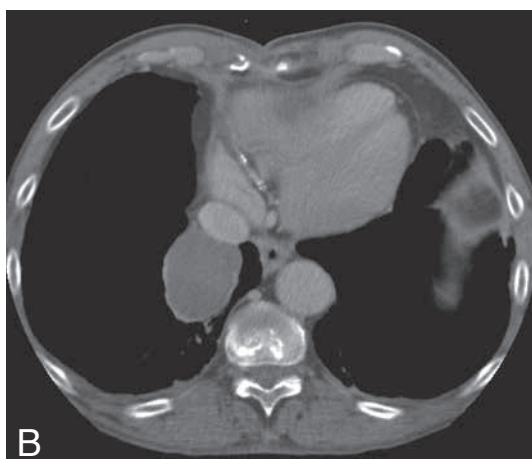
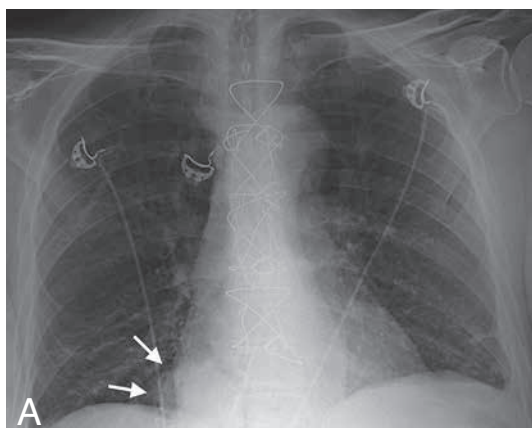


IMAGES IN CLINICAL RADIOLOGY



Pulmonary hematoma presenting as pseudotumor

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A 65-year old man presented at the emergency department with acute shortness of breath, chest pain, cough and haemoptysis. The patient is an ex-smoker with a total of 35 pack years and an extensive medical history, including a serious traffic accident with neuro-trauma, chronic obstructive pulmonary disease, degenerative spine and hip disease, ethylism, a type A aortic dissection and atrial fibrillation. His medication list is extensive and includes a bronchodilator, an antiepileptic, several antihypertensive drugs, pain medication, amiodarone, acetylsalicyc acid and subcutaneous low molecular weight heparin. Chest X-ray showed a rounded opacity in the mediobasal segment of the right lower lobe that could not be seen on previous radiographs (Fig. A). Biochemistry demonstrated an elevated CRP (48 mg/L) and elevated D-dimers (2190 ng/ml). CT thorax was performed to rule out pulmonary embolism. CT thorax showed a sharply demarcated relatively hyperdense mass (mean density on pulmonary artery phase images of 46 HU) with a maximum diameter of 5,5 cm in the mediobasal segment of the right lower lobe abutting the distal vena cava superior (Fig. B). An endobronchial ultrasounded (EBUS) guided biopsy of the lesion was performed. Pathologic examination showed pulmonary tissue with signs of hemorrhage and fibrotic changes. No signs of malignancy were seen. An old thorax CT made in another hospital revealed that the location of the mass corresponded exactly with the location of a large bulla (Fig. C). Based on this new information the diagnosis of pulmonary hematoma within a bulla was made.

Comment

Pulmonary hematomas are generally caused by thoracic injury. Pulmonary hematomas in trauma patients occur when there is a laceration of the lung parenchyma. Normal lung tissue surrounding a laceration pulls back from the laceration due to the normal pulmonary elastic recoil, resulting in a round or oval cavity in the lung. This traumatic cavity can filled with air (pneumatocele), blood (traumatic hematocele or pulmonary hematoma), or both air and blood (traumatic hemato-pneumatocele).

Spontaneous (i.e. non traumatic) pulmonary hematomas are rare and only a few case reports can be found in the medical literature. They are generally attributed to anticoagulation therapy, but their exact disease mechanism remains unclear. Several authors claim that spontaneous bleeding occur in preexisting bullae or cysts. Other authors have suggested that pulmonary haemorrhage occurs first, followed by secondary infection and angionecrosis, which in term promotes bleeding into the new formed cyst. The presence of an older CT proved the hematoma in our patient occurred in a preexisting bulla.

Pulmonary hematomas present on CT as nodules or masses with a relative high attenuation that decrease in volume over time (vanishing tumors). In the non traumatic setting, they can be

mistaken for malignancies. The high density of the lesions can help in making the diagnosis, as few pulmonary entities present with high-density non-calcified pulmonary lesions (talcosis, amiodarone lung). The presence of previous chest CT's can also be helpful to detect a hematoma in a pre-existing bulla or cyst.

Reference

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