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EPIPERICARDIAL FAT NECROSIS

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Key-word: Fat necrosis

Background: A 64-year-old man presented with acute left chest pain of 3 days duration. The pain increased during palpation of the 6th and 7th anterior intercostal spaces. The physical examination, ECG and laboratory tests were normal.

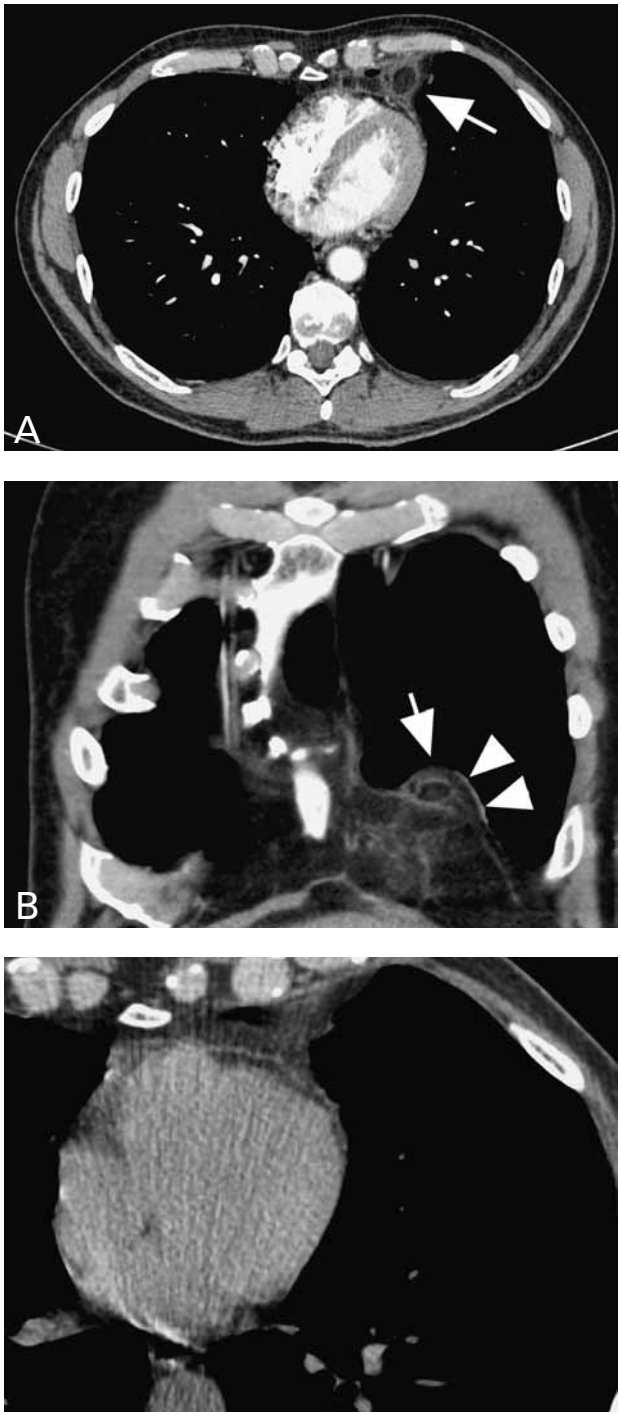

Fig. 1A / 1B / 2

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Work-up

Contrast-enhanced CT scan of the chest on admission (Fig. 1) shows on transverse section at the level of the heart (A) a rounded lesion (arrow) adjacent to the left antero-lateral part of the pericardium. The lesion shows a central area of low attenuation (-80 HU) and is surrounded by a capsule of higher density. The nearby pericardium is slightly thickened. Coronal reformatted image (B) confirms the rounded shape of the lesion (arrow). The thickened pericardium (arrowheads) in contact with the lesion is better demonstrated on this image plane. Follow-up chest CT scan performed 2 weeks later, following anti-inflammatory drug treatment (Fig. 2) demonstrates complete resolution of the lesion.

Radiological diagnosis

Based on chest CT scan and clinical findings, the diagnosis of *epipericardial fat necrosis* was made. Control CT after 2 weeks of anti-inflammatory drugs showed disappearance of the lesion.

Discussion

Fat necrosis can occur in various sites in the organism. It is common in the breast and has also been described in peripancreatic fat in cases of pancreatitis, in epiploic appendagitis, in omental infarction, in the subcutaneous fat, and, less frequently, in the epipericardial fat. The pathologic features of epipericardal fat necrosis are similar to those found in epiploic appendagitis, and consist of encapsulated fat necrosis with inflammatory infiltrate. Pathogenesis remains unknown. Possible mechanisms have been suggested: ischemia due to torsion of epipericardial fat appendage, trauma or even increased thoracic pressure related to a Valsalva's manoeuvre. In the latter condition, it is assumed that elevation of capillary pressure could lead to hemorrhagic necrosis. CT scan helps to determine the nature and define the exact location of the epipericardial mass. CT is diagnostic by demonstrating a fatty lesion with dense strands surrounded by an enhancing capsule, sometimes associated with slight thickening of pericardium, and occasionally pleural effusion. The differential diagnosis includes diaphragmatic hernia (Morgagni's hernia), liposarcoma, thymolipoma and teratoma. The pain related to epipericardial fat necrosis is characteristically mistaken for a more critical disease, particularly myocardial infarction or pulmonary embolism. In epipericardial fat necrosis the pain is located anteriorly, near the diaphragm and may irradiate to the neck, shoulder, upper arm, axilla, or back. It may last several days to a week, but can recur less intensively for up to a year. The patient may present with dyspnea, tachypnea, and tachycardia. The electrocardiogram characteristically is normal or shows nonspecific ST- or T-wave changes suggesting ischemia, or findings consistent with resolving pericarditis. This case illustrates the typical presentation of epipericardial fat necrosis, a benign condition that is probably underdiagnosed. Radiologists must recognize this entity as, similarly to epiploic appendagitis in the abdomen, CT is diagnostic.

Bibliography

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