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Medical Imaging – Case 51

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2018, 35(5):719–720

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A 73-year-old man was admitted to our hospital due to fever and fatigue. Laboratory investigation revealed severe leukocytosis. Chest computed tomography (CT) scan revealed smooth nodular opacities of approximately 1 cm diameter on all interlobar fissures. Our patient underwent sternal aspiration. Histopathologic examination of sternal aspiration confirmed the diagnosis.

Comment

Chronic lymphocytic leukemia (CLL) is considered the most common type of leukemia in the Western hemisphere; its prevalence in Europe and North America ranges from 29–38% of all leukemias. It primarily affects adults 65–70 years of age. Up to half of patients can be asymptomatic with the disease being incidentally discovered by a routine blood work up. Patients may sometimes present with hepatomegaly, splenomegaly or both and or a hemolytic anemia. It is a B-lineage neoplasm of prefollicular centre cells that is usually associated with circulating neoplastic small lymphocytes. There are two common staging systems in use which are: Rai and Binet staging system. The diagnosis is generally established by a bone marrow biopsy and immunophenotyping.

Imaging may identify various features of the disease such as splenomegaly, hepatomegaly and or lymphadenopathy, although these are not specific for the disease. As with other types of bone marrow infiltrative disease, it is possible to see a diffusely hypointense signal of bone structures on T1, easier to see on spinal magnetic resonance imaging (MRI).

Respiratory tract illnesses are common in patients with CLL, and result in significant morbidity and mortality. These illnesses vary in etiology and manifest as a wide array of radiographic abnormalities. Pulmonary infiltrates are the common radiographic abnormalities and are caused most frequently by infection. However, they also may represent direct parenchymal infiltration by leukemia, drug-related toxicity, alveolar hemorrhage, pulmonary embolism, secondary malignancy, or pulmonary leukostasis. The radiographic appearance of pulmonary leukemic infiltration mainly consists of bilateral reticular changes (thickened interlobular septa) and in lesser degree of small pulmonary nodules and focal homogenous opacities. Few studies describe the CT scan findings of pulmonary leukemic infiltration. None of the above report interlobar fissures as in our patient.

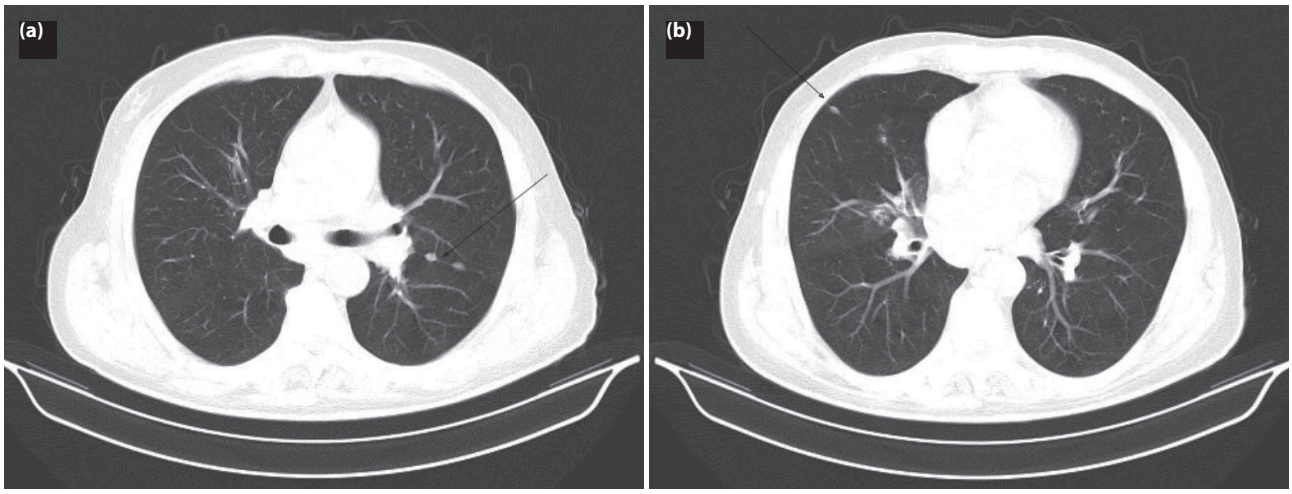

Figure 1. Chest computed tomography reveals smooth nodular opacities of approximately 1 cm diameter on all interlobar fissures.

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