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Scientific Letter

Hodgkin Lymphoma Mimicking Lung Carcinoma

Linfoma de Hodgkin simulando a un carcinoma pulmonar

Dear Editor,

Most cases of Hodgkin lymphoma (HL) arise in cervical and mediastinal lymph nodes. Pulmonary involvement of secondary HL is not uncommon and is reported to occur in 15–40% of patients.[1,2]

A 34-year-old man with a 3-month history of unproductive cough with no general symptoms and no past medical history. In the medical examination, the patient showed good general condition and no adenopathy or hepatosplenomegaly was reported.

Chest radiograph showed an opacity in the right upper lobe (RUL). A chest computed tomography (CT) showed a RUL 5 cm × 5 cm opacity with air bronchogram and enlarged mediastinal lymph nodes intensely fluorodeoxyglucose avid on positron emission tomography (PET)/CT (Fig. 1a–c), which was a strong indication of primary lung cancer.

There were no pathological findings in the blood tests. Flexible bronchoscopy showed no endobronchial, microbiological or anatomopathological abnormalities. Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) from the mediastinal lymph nodes stations (2R, 4R, 2L, 4L and 7) was negative for malignant cells. All samples were representative of lymphatic tissue on intra-procedure pathological analysis. The pulmonary lesions were not sampled. Excisional biopsy by mediastinoscopy of stations 2R and 4R showed nodular sclerosis HL. Nodular growth patterns with dense collagen bands were seen on microscopic examination (Fig. 1d). Variable counts of lacunar-type Hodgkin/Reed–Sternberg (HRS) cells were identified in the background of mixed inflammatory cells (Fig. 1e). Tumor cells identified on immunohistochemistry (IHC) were CD30, CD15 and PAX5 positive (Fig. 1f). The patient started ABVD (adriamycin, bleomycin, vinblastine, and dacarbazine) chemotherapy.

Classical HL accounts for 90% of cases, and the nodular sclerosing subtype accounts for around 80%. Our patient did not present primary pulmonary HL, as extrapulmonary extension was identified at diagnosis. Histological diagnosis of HL is often challenging in a small biopsy due to the small size of the specimen.[2] Several studies have described the utility of EBUS-TBNA in the diagnosis of *de novo* mediastinal lymphomas, identification of lymphoma subtypes, and differential diagnoses. It is the preferred initial diagnostic test, and has a diagnostic sensitivity of 90.0%. However, in some cases of nodular sclerosing HL it may be very difficult or impossible to obtain enough neoplastic cells for the necessary studies and to recognize HRS cells by needle biopsy. Background infiltrates of inflammatory cells may be considered nonspecific inflammation. Excisional biopsy by mediastinoscopy or thoracoscopy is required to confirm the diagnosis.[2,3]

Radiographic changes seen in HL with pulmonary involvement include direct invasion from involved lymph nodes or via bronchopulmonary lymphatics with peribronchial infiltrates, patchy pneumonic infiltrates, or parenchymal nodules. Sites of disease tend to occur at bifurcation points of the bronchi and

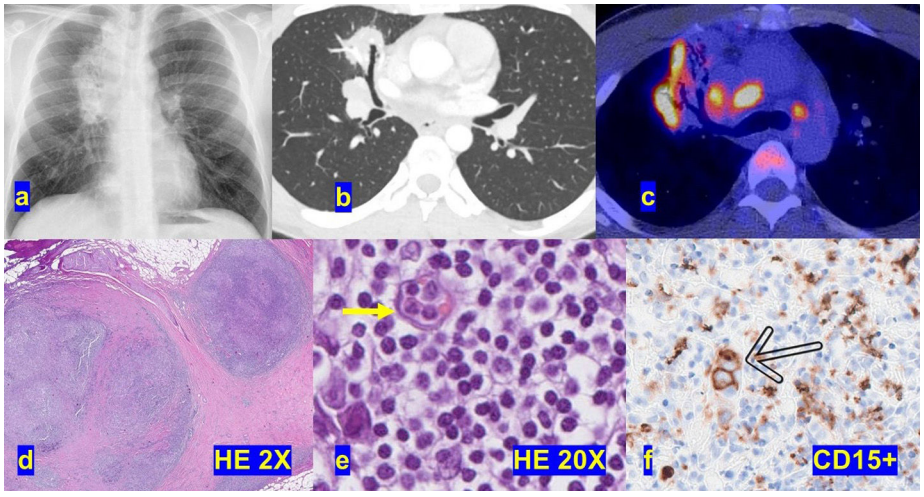

Fig. 1. (a) Chest radiography showed an opacity in the right upper lobe (RUL). (b) A chest CT showed a RUL 5 cm × 5 cm opacity with air bronchogram and enlarged mediastinal lymph nodes. (c) PET/CT. (d) (HE× 2) and (e) (HE× 20). Histologic features of the biopsy. RS cell (arrow). (f) (Immunohistochemistry, ×20) CD15 positive RS cell (arrow) on a background of lymphocytes.

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pulmonary vasculature.[4] Differential diagnosis is complex, and includes infectious or inflammatory causes or malignancy, such as lung carcinoma.[5] The aim of this report is to add to the current literature and to draw attention to the need to consider HL among the possible differential diagnoses, provided radiological results are correlated with appropriate clinical and laboratory evaluations.

Informed consent

The authors have obtained the informed consent of the patient. This document is held by the corresponding author.

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Authors' contributions

JRTB conceived and designed the study. JRTB, OAFG and VAI contributed to the writing of the manuscript, revised the article critically and approved the final version.

Conflicts of interest

The authors have no conflicts of interest to declare that might be directly or indirectly related to the manuscript contents.

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