Thymoma metastasis: Differential diagnosis of pleural nodules and masses

Sir,

An 84-year-old female presented to our hospital with a 5-month history of dyspnea and 5 kg weight loss. She had a history of a mass in the left hemithorax, seen on a previous chest X-ray. Physical examination revealed slight respiratory effort. Pulmonary auscultation showed an abolished vesicular murmur in the left hemithorax, and percussion revealed dullness on the same side. The respiratory rate was 40 ipm and oxygen saturation was 90%. No other abnormality was found. Laboratory tests showed anemia and normal levels of lactate dehydrogenase.

Chest computed tomography (CT) showed an anterior mediastinal mass with foci of calcification, pericardiophrenic lymphadenopathy, and extensive pleural masses in the left hemithorax associated with massive pleural effusion [Figure 1]. Analysis of the pleural fluid showed lymphocytic effusion. Percutaneous biopsy of the pleura was performed, and the final diagnosis was thymoma with lymphocytic predominance (type B1 or B2) infiltrating the parietal pleura.

Thymoma is a rare epithelial malignant neoplasm that originates in the epithelial cells of the thymus, a lymphoid organ located in the anterior mediastinum. It is the most frequently encountered primary tumor of the anterior mediastinum.[1,2] Its peak incidence occurs in the fifth decade of life, without gender predilection.[3] Thymoma is frequently associated with immune-mediated systemic diseases such as myasthenia gravis, hypogammaglobulinemia, pure red cell aplasia, and polymyositis.[4] Approximately 50% of all thymomas are discovered incidentally in asymptomatic individuals on radiographs taken for other reasons.[1] When symptoms are present, they are usually related to the compression of adjacent mediastinal structures.

Thymomas are slow-growing neoplasms that may exhibit aggressive behavior; they are composed of neoplastic

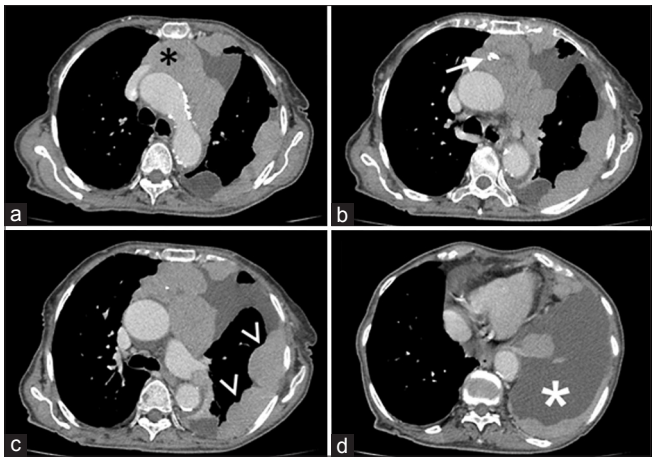

Figure 1: Axial chest computed tomography images (a-d) showing a large mass (black asterisk in a) in the anterior mediastinum with foci of calcification (arrow in b), pleural masses (arrowheads in c), and extensive pleural effusion (white asterisk in d)

epithelial cells and nonneoplastic lymphocytes and exhibit marked histologic variability.[3] The histologic classification of thymomas has been a source of controversy; the system developed by the World Health Organization (WHO) Consensus Committee in 1999 and revised in 2015 classifies thymomas into five subtypes (A, AB, B1, B2, and B3).[5] According to the WHO, several subtypes often coexist in the same tumor, which makes classification challenge. Despite this situation, the histologic classification of thymomas has no clinical implication; clinical decisions are based on the stage of the disease and the completeness of resection.[3] CT is the cross-sectional imaging modality of choice for thymoma evaluation.

Thymoma usually manifests as a 1–10 cm, unilateral, well-marginated, round, anterior mediastinal mass with smooth or lobulated contours, located anywhere from the thoracic inlet to the cardiophrenic angle. Calcification may be present.[3] Approximately one-third of all thymomas are truly invasive, with potential growth through the tumor capsule into the adjacent structures. Local invasion of the pleura occurs more frequently.[1] Pleural dissemination manifests on CT as one or more pleural nodules or masses, which can be smooth, nodular, or diffuse and are almost always ipsilateral to the anterior mediastinal tumor.[3]

In summary, thymoma, although rare, is the most common neoplasm of the anterior mediastinum. When thymoma evolves with metastasis, ipsilateral pleural involvement is the most common presentation. CT is the imaging examination of choice for evaluation and follow-up of thymoma.

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Conflicts of interest

There are no conflicts of interest.

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