Langerhans cell histiocytosis with intrathymic calcifications and cavitation

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A 3-month-old boy presented with respiratory distress, cough, poor feeding and a mediastinal mass on a chest radiograph. A CT scan of the chest demonstrated diffuse thymic enlargement with punctate intrathymic calcifications (Fig. 1) and cavitation (Fig. 2). A diagnosis of Langerhans cell histiocytosis (LCH) was suggested based on the CT findings and confirmed by biopsy of a skin rash.

Granulomatous infiltration of the thymus by dendritic cells is common in pediatric LCH, especially in multisystem

disease, and results in the formation of an anterior mediastinal mass. The differential diagnoses of an anterior mediastinal mass in children include thymic hyperplasia, germ cell neoplasia, T-cell leukemia, lymphoma, granulomatous disease and LCH. Although uncommon, the presence of punctate calcifications [1] and cavitary air cysts [2] in an enlarged thymus are highly specific for LCH. In addition to thymic involvement, chest imaging may reveal reticulonodular pulmonary opacities, lung cysts or lytic bone lesions.

Fig. 1 Chest CT image at soft-tissue windows

Fig. 2 Chest CT image at lung windows

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