

AB019. LA04. Approach to the prevascular mass

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Abstract: A wide variety of lesions can present as a localized tumor or mass in the mediastinum. The radiological evaluation of these patients begins with chest radiograph and is followed by CT or MRI. CT and MR imaging allow visualization of the exact location of the lesions and, in some cases, identification of the structures from which they arise. The International Thymic Malignancy Interest Group (ITMIG) has introduced a new definition of mediastinal compartments to be used with cross-sectional imaging and adopted as a new standard. This clinical classification defines 3-compartment model of prevascular (anterior), a visceral (middle), and a paravertebral (posterior) compartment, with anatomic boundaries defined clearly by computed tomography. The most common masses in the prevascular compartment include thymic abnormalities (cysts, hyperplasia, thymoma, thymic carcinoma, and neuroendocrine tumors), germ cell neoplasms, lymphoma; metastatic lymphadenopathy, and intrathoracic goiter.

Thymoma is classified into non-invasive and invasive thymoma clinically, and is divided into 5 subtypes (type A, AB, B1, B2, and B3) based on the WHO classification histologically. The 4th edition of the WHO classification is the latest and it was published in 2015. Thymic carcinoma is completely different from thymoma histologically, and is more aggressive than thymoma. Thymic neuroendocrine tumors are divided into well differentiated neuroendocrine carcinomas (carcinoid tumor) and poorly differentiated neuroendocrine carcinomas which consist of large cell neuroendocrine carcinoma and small cell carcinoma. Mature teratoma is usually seen as a mass containing soft-tissue, fluid, fat, or calcium attenuation, or any combination of the four. Malignant germ cell tumors are divided into seminoma and non-seminomatous tumors. This tumor manifests as a large homogeneous soft tissue mass and mimics lymphoma with nodal coalescence. Anterior mediastinal cysts are thymic cyst and pericardial cyst, etc. Simple cyst appears as well-defined water-attenuation mass with imperceptible wall. At first, I would like to show the new definition of mediastinal compartments which is useful for making a differential diagnosis in my lecture. Then, I will demonstrate CT and MR images of prevascular mediastinal tumors, and talk how to differentiate and diagnose these entities.

Keywords: Prevascular mediastinal tumors; mediastinal compartment; thymoma

doi: [10.21037/med.2018.AB019](https://doi.org/10.21037/med.2018.AB019)

Cite this abstract as: Tomiyama N. Approach to the prevascular mass. *Mediastinum* 2018;2:AB019.