

AB021. LA06. Management of the incidentally detected prevascular mass

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Abstract: Mediastinal lesions include a variety of benign and malignant diseases. Half of them are located in the anterior mediastinum and thymic lesions are largely responsible for anterior mediastinal lesions. With the increasing use of chest CT imaging in clinical practice and lung cancer screening, asymptomatic incidental anterior mediastinal lesions have become more frequently detected. Three studies so far have reported the prevalence of incidentally detected anterior mediastinal lesions on chest CT scan. The Early Lung Cancer Action Project (ELCAP) study reported a prevalence of 0.45% [95% confidence interval (CI), 0.32–0.60%; 41 of 9,263 participants] among middle- to old-aged smokers (median, 65 years). The Framingham Heart Study reported a prevalence of 0.89% (95% CI, 0.59–1.35%; 23 of 2,571 participants) in a similar population (median, 59 years) except for non-smoking in half of the participants. Lastly, among 56,358 healthy participants (mean age: 52.4 years) who underwent a low-dose chest CT scan as part of their health checkups, the prevalence was 0.73% (95% CI, 0.66–0.80%). The distribution of pathologies in anterior mediastinal lesions is different according to age and gender. Considering that incidental anterior mediastinal lesions are primarily encountered on screening chest CT scan in 50–70s, thymic malignancy such as thymic epithelial tumors is a main concern for the incidental lesions. In the

ELCAP study, among the 41 lesions, five lesions which were larger than 3 cm were resected, and thymic epithelial tumor was identified in four of the five lesions, whereas 5 of 25 lesions (20%) smaller than 3 cm increased at 1 year. In the Framingham Heart Study, none of the 23 lesions were resected, and 6 of 8 lesions (75%) had increased on a follow-up CT scan over a median follow-up of 6.5 years. In the asymptomatic subjects who underwent chest CT scan for health checkups, 51 of 413 lesions (12.3%) had a confirmatory diagnosis: 76.9% (39 of 51) were benign (32 thymic cysts, 4 bronchogenic cysts, 1 mature teratoma, 1 thymolipoma, and 1 coronary-pulmonary fistula); and 23.1% (12 of 51) were malignant (6 thymomas, 5 thymic carcinomas, and 1 non-small cell lung cancer). Conservative management with follow-up is recommended for the incidental lesions. Nevertheless, a regular follow-up may not resolve all problems, as a long-term follow-up is required to detect any increase or decrease in lesion size and neither interval growth nor a lack of growth during follow-up can guarantee either malignancy or benignity. Additional studies such as thoracic MRI may be needed for further characterizing incidental anterior mediastinal lesions, especially for thymic cyst and for alleviating the anxiety of patients. Indeed, state-of-art thoracic MRI can offer an excellent contrast resolution which enables to depict various tissue characteristics of anterior mediastinal lesion along without motion artifact. In conclusion, the prevalence of incidental anterior mediastinal lesion ranges from 0.45–0.89% and a considerable portion of the lesions were suspected to be benign. A conservative patient-tailored approach with follow-up is required and thoracic MRI can be used as a supplementary noninvasive imaging modality.

Keywords: Thymus gland, mediastinum; incidental findings; disease management

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