

Micronodular Thymoma with Lymphoid Stroma: A Case Report

Micronodular thymoma with lymphoid stroma (MNT) is an extremely rare tumor and has not been reported in Korea. Herein, we report a case of MNT diagnosed in a 75 year-old male. The mass was incidentally identified on thoracic computer tomography (CT) during work-up for a cardiac mass. The resected thymic mass was ovoid and solid measuring 3.5×3 cm in size and showed homogenously white tan, solid and firm cut surface. Microscopically, the tumor had a thin fibrous capsule except small foci of invasion to thymic adipose tissue, and consisted of characteristic multiple discrete epithelial nodules in abundant lymphoid stroma. The epithelial nests anastomosed each other, forming a vague cord-like structure. The cells in the epithelial nests were bland, spindle to oval shape with relatively abundant cytoplasm, slightly vesicular chromatin and one definite nucleolus. The lymphoid stroma contained prominent germinal centers. No evidence of recurrence or metastasis has been found within 4 years of surgery. (***J Lung Cancer* 2011;10(1):56 – 58**)

Key Word: Thymoma

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Micronodular thymoma with lymphoid stroma (MNT) is a rare entity characterized by proliferation of small tumor nodules separated by abundant B-lymphocytes with prominent germinal centers. MNT has recently been specified in the World Health Organization (WHO) histological classification of thymic epithelial tumors (1). It has not been reported in Korea.

CASE REPORT

A 75 year-old male complaint of dyspnea on exertion was founded to have a mass in left atrium. Thoracic computer tomography (CT) revealed another ovoid mass in the anterior mediastinum (Fig. 1A). There was no abnormality on physical examination. The results of routine laboratory studies were within the normal ranges. Surgical tumor resections of two masses in the thorax were performed.

The thymic mass was ovoid in shaped and well-encapsulated, measuring 3.5×3 cm. The cut surface was homogenously white tan, solid and firm (Fig. 1B). On microscopic examination, the external surface had a thin fibrous capsule and a few foci of

tumor extending beyond the capsule to the peri-thymic adipose tissue (Fig. 1C). The mass was consisted of characteristic multiple discrete epithelial nodules in abundant lymphoid stroma (Fig. 1D~E). The epithelial nests showed frequent anastomoses, forming vague cord-like structure. The cells in the epithelial nests were of bland, spindle to oval shape with relatively abundant cytoplasm, slightly vesicular chromatin and one definite nucleolus. The lymphoid stroma contains prominent germinal centers. Cytokeratin 5/6 is positive in the epithelial components. The majority of the lymphocytes were CD 20 positive B-cells (Fig. 1F). On the other hand, the mass from the heart was typical myxoma. The patient was discharged ten days after surgery. He remains dyspneic due to chronic obstructive pulmonary disease, but no evidence of thymoma recurrence or metastasis has been found in a four year follow up period.

DISCUSSION

MNT was recently reported by Suster and Moran (2). It is

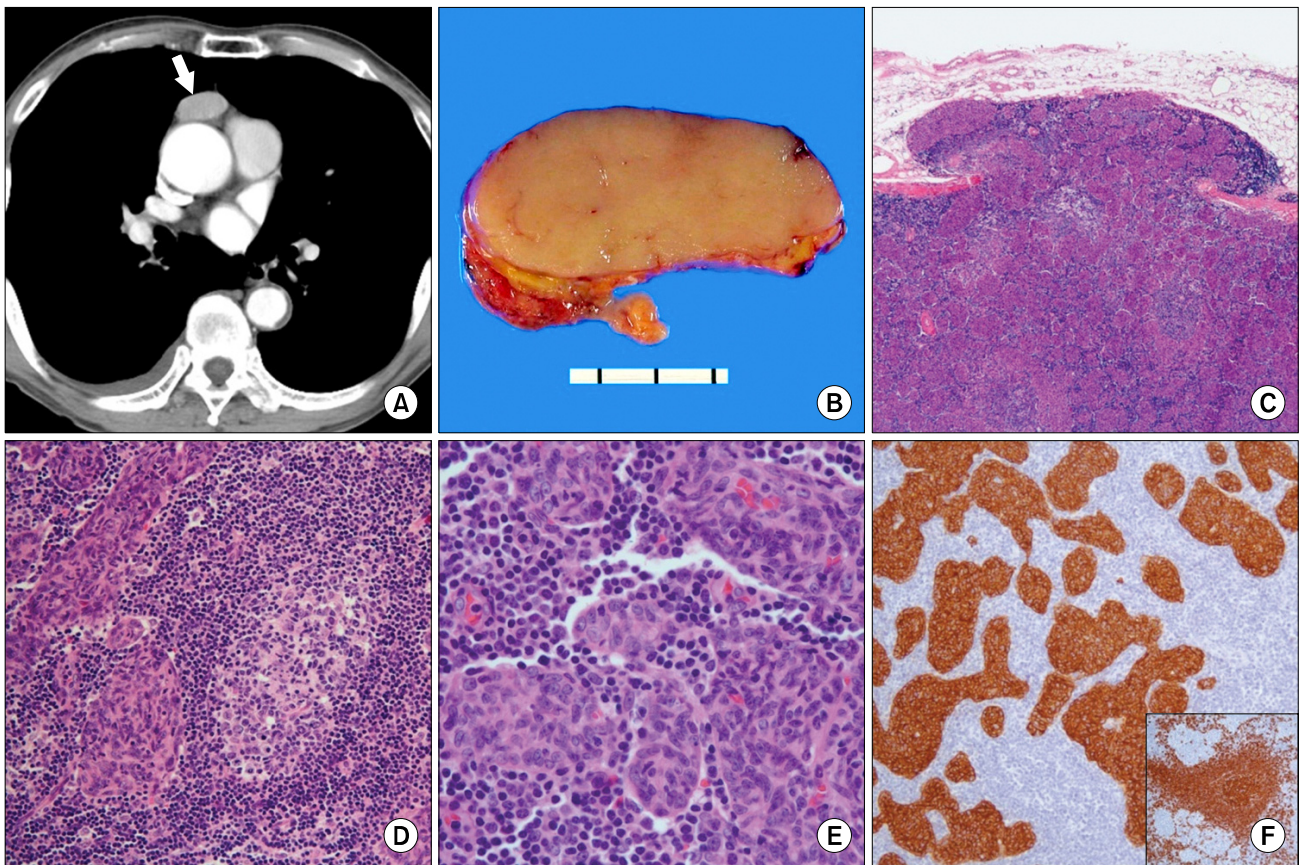


Fig. 1. (A) A well-demarcated mass (arrow) was found in the anterior mediastinum on thoracic computer tomography (CT). (B) Cut section of the mass was solid and lobulated with fine fibrous septa. (C) The tumor showed focal extension beyond the capsule to peri-thymic adipose tissue (hematoxylin-eosin stain, $\times 40$). (D) Multiple lymphoid follicles with germinal centers were found in the lymphoid stroma (hematoxylin-eosin stain, $\times 200$). (E) Discrete epithelial nodules in lymphoid-rich stroma were unique microscopic feature (hematoxylin-eosin stain, $\times 400$). (F) Cytokeratin 5/6 was positive in the epithelial components, and CD 20 was positive in lymphoid stromal cells (inset) (ABC method, $\times 100$).

rare, and accounts for 1~5 per cent of all thymomas (3). A report of eleven cases of MNT with lymphoid stroma classified this into 4 subgroups by histologic morphology (4). This case can be considered group 2 by morphological classification.

The unique histologic features and rarity can render accurate diagnosis challenging. MNT should be differentiated from conventional type AB thymomas, which may also contain single lymphoid follicles in rare cases (3). In contrast to type AB thymomas, the lymphocytic-rich areas in MNT do not contain epithelium. MNT can be confused with metastatic carcinoma, when epithelial nodules are mainly found in biopsy specimens. CD5, which is detected in thymic carcinoma but not in other malignant tumors, can be useful to exclude metastatic carcinoma.

Usually no paraneoplastic symptom is attributed to MNT

with lymphoid stroma, but myasthenia gravis and hypogammaglobulinemia have been reported (4). The clinical manifestation of this case, dyspnea, may be due to myxoma and co-existing chronic obstructive pulmonary disease, but not MNT. No other symptoms were identified in this patient. The clinical course is known to be indolent and local excision is thought to be curative, but investigations into more cases are needed because of the small number of reported cases. For our patient, long time follow-up is recommended because of the relatively thin capsule and tumor extension beyond the capsule to the peri-thymic adipose tissue.

REFERENCES

1. Travis WD, Brambilla E, Muller-Hermelink HK, Harris CC

- (Eds). World Health Organization Classification of Tumours. Pathology and genetics of tumours of the lung, pleura, thymus and heart. Lyon: IARC Press; 2004. p.148-151.
2. Suster S, Moran CA. Micronodular thymoma with lymphoid B-cell hyperplasia: clinicopathologic and immunohistochemical study of eighteen cases of a distinctive morphologic variant of thymic epithelial neoplasm. *Am J Surg Pathol* 1999;23: 955-962.
 3. El MF, Braham E, Ayadi A, Ismail O, Kilani T. Micronodular thymoma with lymphoid troma: report of two cases and particular association with thymic lymphoid hyperplasia in one case. *Pathology* 2006;38:586-588.
 4. Tateyama H, Saito Y, Fujii Y, et al. The spectrum of micronodular thymic epithelial tumours with lymphoid B-cell hyperplasia. *Histopathology* 2001;38:519-527.
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