Psammoma Bodies in Malignant Pleural Mesothelioma

Isao Miyoshi, Naoki Komatsu, Masanori Daibata, Makoto Kobayashi, Makoto Hiroi, Yuji Ohtsuki and Hirokuni Taguchi

Key words: malignant mesothelioma, biphasic cell type, psammoma bodies

(DOI: 10.2169/internalmedicine.46.6103)

A 55-year-old never-smoker housewife presented with cough and exertional dyspnea. Chest computed tomography (CT) demonstrated a right superior paravertebral mass, irregular nodular thickening of the right pleura, and mediastinal lymphadenopathy (Picture A). A CT-guided needle biopsy showed a papillary pattern of cuboidal tumor cells that were positive for calretinin and cytokeratin 5/6 and negative for CEA by immunohistochemistry. A diagnosis of malignant mesothelioma was made. She was treated with chemotherapy (gemcitabine, vinorelbine, cisplatin) but the response was poor. She then developed superior vena cava syndrome and multiple cerebral metastases, for both of which radiotherapy was given. The patient’s condition rapidly worsened and she died 15 months after onset. Postmortem examination revealed mesothelioma involving the total right pleura with contiguous spread to the right lung, right diaphragm, superior vena cava, and pericardium. In addition, there were metastases to bilateral lungs, cervical, mediastinal and paraaortic lymph nodes, and left adrenal gland. The brain was not examined at autopsy. Histologically, the tumor ex-
hibited a biphasic morphology of epithelioid (A) and sarco-
matoid (B) elements (Picture B1). Also notable was the
presence of a small number of psammoma bodies in the tu-
bulopapillary component of the mesothelioma (Picture B2).
Malignant mesothelioma is regarded as an asbestos-related
neoplasm. However, the present patient had no history of
occupational or environmental exposure to asbestos and no
asbestos bodies could be extracted from the lung tissues,
suggesting another, yet unknown, causative factor. Psam-
moma bodies are laminated spherical concretions that occur
in a variety of malignant and benign conditions, especially
in ovarian and thyroid papillary adenocarcinoma. They are
believed to be produced by degenerating tumor cells, secre-
tions from these cells, or a mixture of both. The association
of psammoma bodies with pleural mesothelioma has been
rarely reported (1, 2).

We thank Dr. Takumi Kishimoto, Okayama Rosai Hospital, for
quantification of asbestos bodies from the lung tissues.

References

1. Donaldson JC, Elliott RC, Kaminsky DB, Walsh TE, Newby JG. Psammoma bodies in pleural fluid associated with a mesothe-

2. Griffiths MH, Riddell RJ, Xipell JM. Malignant mesothelioma: a
review of 35 cases with diagnosis and prognosis. Pathology 12:
591-603, 1980.