



Pathology Page

Clear cell carcinoma of the thymus

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ARTICLE INFO

Article history:

Received 3 March 2011

Received in revised form

1 April 2011

Accepted 2 April 2011

A 52-year-old man visited our hospital after suffering from chest pain for a half year. Chest computed tomography (CT) showed a huge anterior mediastinum mass. CT-guided biopsy showed tumor nests with clear cytoplasm consistent with clear cell carcinoma of the thymus (Fig. 1). Immunohistochemistry stain was strongly positive for CD5 in the cell membrane (Fig. 2). He also

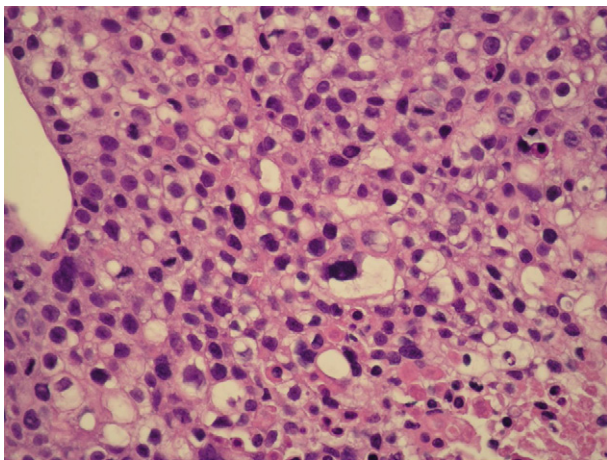


Fig. 1. Histopathology shows clear cell carcinoma with clear cytoplasm (hematoxylin and eosin stain $\times 400$).

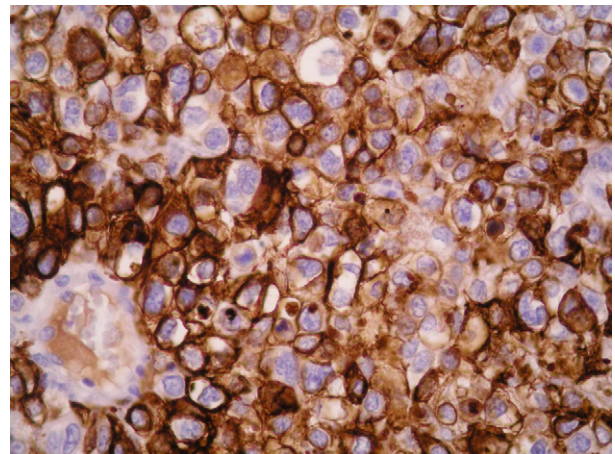


Fig. 2. Immunohistochemistry stain is strongly positive for CD5 in the cell membrane of clear cell carcinoma (3-amino-9-ethylcarbazole stain $\times 400$).

complained of a severe headache for several months. Brain CT showed a metastatic mass in the frontal lobe. A craniotomy and excisional biopsy were performed. Histopathology confirmed metastatic cancer same as the thymic picture.

Clear cell carcinoma of the thymus is a thymic carcinoma predominantly or exclusively composed of cells with an optically clear cytoplasm. Patients may show symptoms related to a mediastinal mass, such as chest pain or dyspnea. Some patients are asymptomatic, with the tumor being detected by routine radiography or during an unrelated thoracotomy. Macroscopically, the reported tumor size ranges between 4 cm and 12 cm (average 9 cm).

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Tumor cells usually show strong cytoplasmic diastase-labile periodic acid-Schiff positivity, but are periodic acid-Schiff negative. Clear cell carcinomas of the thymus are highly malignant, aggressive mediastinal neoplasms with frequent local recurrences and metastases, such as in our case. Deaths are related to metastatic disease or local infiltration of organs during recurrence.

Further reading

- [1] Nakano T, Endo S, Tsubochi H, Nokubi M, Watanabe Y, Koyama S. Thymic clear cell carcinoma. *Gen Thorac Cardiovasc Surg* 2010;58:98–100.
- [2] Hasserjian RP, Klimstra DS, Rosai J. Carcinoma of the thymus with clear-cell features. Report of eight cases and review of the literature. *Am J Surg Pathol* 1995;19:835–41.