Tzu Chi Medical Journal 23 (2011) 70–71

Contents lists available at ScienceDirect

Tzu Chi Medical Journal

journal homepage: www.tzuchimedjnl.com

Pathology Page

Lymphoepithelioma-like carcinoma of the thymus

Yung-Hsiang Hsu*

Department of Pathology, Buddhist Tzu Chi General Hospital and Tzu Chi University, Hualien, Taiwan

ARTICLE INFO

Article history:
Received 3 March 2011
Received in revised form
1 April 2011
Accepted 2 April 2011

A 23-year-old man visited our hospital after suffering from dyspnea with a protruding midline neck mass for a half year. Chest computed tomography showed a huge thymic mass with left lower neck extension. He received a thymectomy. Grossly, the mass was well defined, lobular, and grayish white measuring $6.0 \times 6.0 \times 3.5$ cm. Histopathology showed epithelioid-like cell nests with prominent nucleoli and lymphocyte infiltration in the background of so-called lymhoepithelioma-like carcinoma (LELC) of the thymus (Fig. 1). Epstein-Barr virus (EBV)-encoded RNA *in situ* hybridization showed numerous positive signals (Fig. 2). LELC of the thymus is a primary thymic carcinoma characterized by syncytial growth of undifferentiated carcinoma cells accompanied by lymphoplamacytic infiltration similar to that of undifferentiated carcinoma of the nasopharynx. Thymic LELC occurs in the anterior mediastinum and usually extends into contiguous structures. Lymph nodes, the lung, liver, and bone are frequent sites of metastasis. Patients usually complain of dull chest pain, cough or dyspnea, and constitutional symptoms, but some patients are asysmptomatic and are incidentally found to have an anterior mediastinal mass on imaging examination. About 47% of cases of

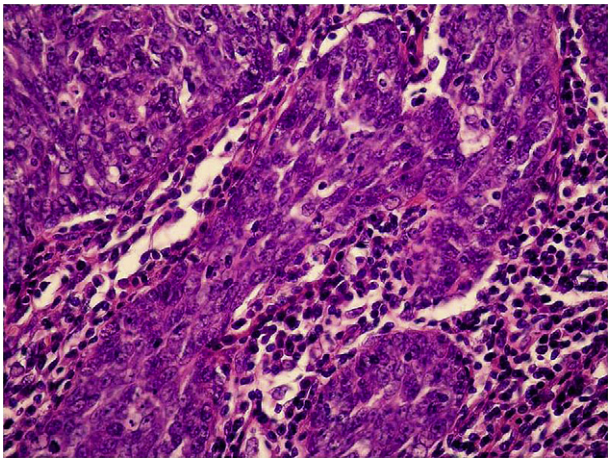

Fig. 1. Histopathology shows classic lymphoepithelioma-like carcinoma composed of epithelioid-like cells with prominent lymphocyte infiltration (hematoxylin and eosin $\times$ 400).

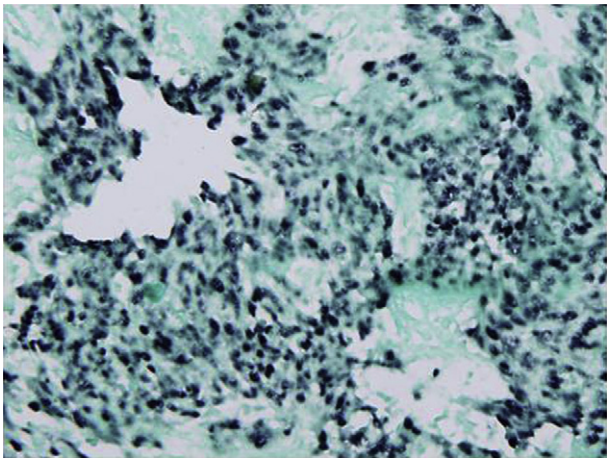

Fig. 2. Epstein-Barr virus-encoded RNA *in situ* hybridization shows the Epstein-Barr virus genome (*in situ* hybridization $\times$ 400).

* Corresponding author. Department of Pathology, Buddhist Tzu Chi General Hospital, 707, Section 3, Chung-Yang Road, Hualien, Taiwan. Tel.: +886 3 856 5301x2190; fax: +886 3 857 4265.
E-mail address: yhhsu@mail.tcu.edu.tw.

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doi:10.1016/j.tcmj.2011.04.003

thymic LELC are associated with the EBV as demonstrated by EBV-encoded RNA *in situ* hybridization or DNA analysis. EBV is almost always positive in thymic LELC in children and young adults, such as in our patient. Thymic LELC is a highly malignant neoplasm with a poor prognosis. The estimated average survival is 16 months in 88% of patients.

Further reading

[1] Matsuno Y, Mukai K, Uhara H, Akao I, Furuya S, Sato Y, et al. Detection of Epstein-Barr virus DNA in a Japanese case of lymphoepithelioma-like thymic carcinoma. Jpn J Cancer Res 1992;83:127–30.
[2] Rosai J. "Lymphoepithelioma-like" thymic carcinoma: another tumor related to Epstein-Barr virus? N Engl J Med 1985;312:1320–2.