Malignant non-Hodgkin’s lymphoma developing late after pneumonectomy

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Abstract

A 64-year-old man underwent a left pneumonectomy for a benign bronchial stenosis in 1968. In 1997, a left parietal thoracic tumour: T-type malignant non-Hodgkin’s lymphoma (MNHL) was detected. It was treated by chemotherapy and radiation therapy. After 6 years follow-up, the patient is alive and in remission. We have found only one case of such a lymphoma in the literature. It could be classified as pyothorax-associated lymphoma from which there are several published cases especially in Japanese literature.

Keywords: Pneumonectomy; Malignant non-Hodgkin’s lymphoma; Pyothorax-associated lymphomas

A 64-year-old man with a history of pulmonary tuberculosis and left lower lobe abscess underwent a left pneumonectomy for a benign bronchial stenosis and destroyed lung in 1968. In 1997 (29 years later), occurrence of general status deterioration, ichthyosis and left chest pain, combined with an inflammatory biologic syndrome led to the detection of a left parietal thoracic tumour (Fig. 1) with no other organ involvement. A surgical biopsy led to the diagnosis of T-type malignant non-Hodgkin’s lymphoma (MNHL) with large cell III B CD30−EMA+. The treatment was an eight courses CHOP chemotherapy (doxorubicine, vincristine, cyclophosphamide, prednisone) completed with a radiation therapy (40 Gy in 25 fractions). It resulted in the disappearance of general and local symptoms and a disappearance of the tumour at the CT-scan 1 year later (Fig. 2). This patient is alive and free of disease after 6 years follow-up.

Comment: We have found in the literature only one case of MNHL developed in a postpneumonectomy cavity [1]. Since pneumonectomy results in a chronic pleural modification and thickening in the pleural cavity, this pathology could be compared to the MNHL arising in patient with chronic pyothorax (i.e., pyothorax-associated lymphomas (PAL)).

This latter pathology is rare, mainly reported in the Japanese literature with few cases reported in the Western countries. It develops in patients with chronic pyothorax, especially those with an history of artificial pneumothorax posttuberculosis. The term PAL has been proposed for this primary pleural non-Hodgkin’s lymphomas that to be consistently associated with a clinical history of long-standing pyothorax or chronic inflammation of the pleura resulting from therapeutic artificial pneumothorax for the treatment of pulmonary tuberculosis or tuberculous pleuritis [1]. However, it should be pointed out that our patient had no history or signs of postpneumonectomy pyothorax.

Usually, the interval between the start of the chronic pyothorax and the onset of MNHL is greater than 20 years [2] similar to the 29 years in this report. Principally pneumonectomy for benign disease allows such follow-up. Chest pain is the most common presenting symptom, which is unusual in case of chronic pyothorax [2,3]. Dyspnea, cough or haemoptysis are possible symptoms [3]. Standard laboratory examinations are poor, showing sometimes a non-specific inflammatory syndrome. Chest radiograph makes the diagnosis of pleural tumour in 35% of cases, CT-scan in 77% [3]. The diagnosis may be done by pleural effusion cytology or fine needle aspiration of the tumour. However, surgical biopsy is frequently necessary for histopathological and immunohistochemical examination.

A B-cell lymphoma is the most common type of MNHL developing in chronic pyothorax [2,3]. The physiopathology of PAL is still unknown. An autoimmune disease or a chronic pleural non-autoimmune inflammation has been suspected in these cases [2]. Epstein–Barr virus (EBV) may also be an atiologiical factor: EBV gene products having been identified.
in lymphocytes from PAL. This association between EBV and malignancy is better known in other cases such as EBV and Burkitt’s lymphoma or nasopharyngeal carcinoma [4]. Such atiological factors may be also suspected in our case because a pleural inflammatory thickening is usual in postpneumonectomy cavities.

Treatments proposed for PAL are chemotherapy, radiation therapy and surgery, possibly combined. Chemotherapy regimens are CHOP or CHOP-like drugs. Radiation therapy should be wide margins, because most of the recurrence occurred near the primary lesion. Some reported excellent result with pleuroperoneumonectomy with or without radiation therapy in case of PAL after artificial pneumothorax for the treatment of pulmonary tuberculosis [2]. Chemotherapy with or without combined radiation therapy has an actuarial 2 years survival rate of 32—42% [2]. Pleuroperoneumonectomy with or without combined radiation therapy lead to better results: 85.7%, 5 years survival rate [5].

References


