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Primary Pulmonary Non-Hodgkin's Lymphoma

Patrick A. Flume*

Division of Pulmonary, University of Washington School of Medicine, Seattle, Washington, USA

Editorial

Primary pulmonary nonHodgkin's lymphoma (PPNHL) is a rare disease with a wide range of symptoms and radiographic features, as well as a challenging preoperative diagnosis. Only a few studies have looked into PPNHL in Chinese individuals. The purpose of this study was to examine prognostic markers in patients with PPNHL in order to enhance early diagnosis. The most prevalent radiographic findings were pulmonary nodules and masses (55.2 percent). Endobronchial biopsy or transbronchial lung biopsy yielded an 80 percent (12/15) diagnostic yield, while computed tomography (CT) guided percutaneous needle lung biopsy (11/11) or surgery (8/8) yielded a 100 percent diagnostic yield. Patients with aggressive disease had significantly higher levels of lactate dehydrogenase and had more systemic symptoms than those with indolent disease.

All patients had a median OS rate of 12.0 months; however, patients with aggressive lymphomas had a significantly lower OS rate (7.1 months vs. 16.6 months; P=0.002) than those with indolent lymphomas. The presence of aggressive lymphoma vs. indolent lymphoma was found to be an independent predictive factor for a poor 5-year survival rate (hazard ratio, 5.98; P=0.014). In conclusion, the most useful and least intrusive techniques for diagnosing PPNHL were bronchoscopic and CTguided percutaneous needle lung biopsies. In addition, aggressive PPNHL was strongly linked to a poor 5-year OS rate and a poor prognosis [1].

PPL is defined as clonal lymphoid proliferation affecting one or both lungs in patients who have no extrapulmonary involvement or bone marrow illness at the time of diagnosis and for the following three months. This disease is extremely rare, accounting for only 1% of malignant lymphomas and 3.6 percent of extranodal lymphomas globally. The relatively low levels of lymphoid tissue in pulmonary tissue compared to other places may account for the rarity of PPL. MALT-type lymphoma is the most prevalent form, but other subtypes are frequently found in immunocompromised people [2,3].

With similar cytopathological hallmarks to other MALT lymphomas, especially gastric lymphoma, pulmonary MALT lymphoma is known as nodal marginal-zone B-cell lymphoma. 70 to 90% of PPL cases are categorised as mucosa-associated lymphoid tissue (MALT)-type non-lymphomas. Hodgkin's (NHLs). Patients with PPL have a male to female ratio ranging from 1:1 to 1:2, and the average age of patients with NHL is 5312 years. According to World Health Organization (WHO) criteria, NHL can be split into two types:

Follicular lymphoma (FL) grade I–II, marginal zone B-cell lymphoma, small lymphocytic lymphoma, and hairy cell leukaemia are examples of indolent-type lymphomas.

Diffuse large B-cell lymphoma (DLBCL), anaplastic large cell lymphoma (ALCL), peripheral T-cell lymphoma unspecified (PTCL-U), mantle cell lymphoma (MCL), and natural killer/T-cell lymphoma (NK/T-L) are examples of aggressive lymphomas.

Pathological analysis of samples taken using invasive techniques such as bronchoscopic biopsy, CT-guided percutaneous needle lung biopsy, video-assisted thoracic surgery (VATS), open lung biopsy, and pleural membrane biopsy were used to diagnose all of the patients. Hematopathologists used the latest WHO criteria to analyse and classify histological specimens. Immunohistochemistry or in situ hybridization (ISH) staining were used to assist the diagnosis of putative subtypes based on distinct markers, in addition to morphology and growth pattern analyses based on hematoxylin-eosin (HE) staining.

The tissue samples were fixed in 10% buffered formalin for 6 hours at room temperature, embedded in paraffin, processed as usual, sectioned into 4-m sections, and stained with hematoxylin and eosin (for 5 minutes at room temperature) (for 1 min at room temperature). Then, in a declining alcohol sequence, the portions were deparaffinized and rehydrated (100 percent alcohol for 5 min, 95 percent alcohol for 4 min, and 85 percent alcohol for 2 min). Antigens were heat-recovered in an EDTA solution at 98°C. The tissue sections were quenched with 3 percent hydrogen peroxidase and non-specific binding sites were blocked with 5 percent goat serum (Thermo Fisher Scientific, Inc.) at 37°C for 30 minutes after cooling to room temperature. According to the manufacturer's instructions, immunohistochemical staining was conducted on 4-m sections using a Real Envision Kit on an automated immunostaining module (Leica Bond III). All primary antibodies were diluted according to the manufacturer's instructions or a previously optimised dilution and incubated for 30 minutes at room temperature [4]. The majority of patients received first-line chemotherapy, which included cyclophosphamide, doxorubicin, vincristine, and prednisone (CHOP) or CHOP-like regimens, which included etoposide, doxorubicin, vincristine, prednisone, and cyclophosphamide (EPOCH) [5].

Conclusion

Eight patients had partial or complete surgical excision of lung lesions followed by chemotherapy, two patients had radiotherapy followed by chemotherapy, and ten patients had chemotherapy alone. In total, four patients were given rituximab in combination with CHOP therapy (median, five cycles; range, two to nine cycles), while two patients were given rituximab alone. The indolent lymphoma group had a greater objective response rate to chemotherapy than the aggressive lymphoma group (67 percent vs. 7.1 percent, respectively; P0.05). Seven patients with primary lung MALT lymphoma were placed on a watchful waiting and clinical observation regimen.

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***Address for Correspondence:** Patrick A. Flume, Division of Pulmonary, University of Washington School of Medicine, Seattle, Washington, USA, E-mail: Flume12@gmail.com*

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