Clinical features and prognosis of eighty-five patients with primary pulmonary lymphoepithelioma-like carcinoma

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Background: Pulmonary lymphoepithelioma-like carcinoma (PLELC) is a rare subtype of lung cancer that is less reported and not well understood around the world.

Methods: A retrospective analysis of clinical features for 85 patients was conducted to determine the prognostic factors in terms of age, gender, radiographic features, serum tumor markers, TNM stages, pathological features, treatment and prognosis.

Results: PLELC preferentially affects the young (< 60 years old: 71.8%) nonsmokers (72.9%), without significant difference in gender. The median follow-up time was 15 months (1-37 months) for the whole group and most patients were in the early stage with opportunity of operation (50.6%). For the advanced stage group, patients mainly received chemotherapies and radiotherapies, the 0.5-year and 1.5-year PFS rates were 61% and 29%, respectively. The TNM stage (P = 0.014) and performance status (PS) (P = 0.040) were associated with PFS significantly in the univariate analysis, while TNM stage was an independent prognostic factor in multivariate analysis (P = 0.026).

In the subtype analysis, patients in the advanced stage receiving Gemcitabine plus platinum (GP group) or Paclitaxel plus platinum (TP group) had better PFS than Pemetrexed plus platinum (PP group) (P = 0.005).

Conclusions: PLELC had a better prognosis compared with other types of non-small cell lung cancer (NSCLC) and was sensitive to radiotherapy and chemotherapy. The current results recommended that the GP and TP should be used as first-line treatment of PLELC. The TNM stage and PS were predictive in prognosis of PLELC patients.
Three-year disease-free survival in the main group was 80.7% (median DFS not reached). Differences are statistically significant: Log-Rank test, \( P < 0.0001 \) for patients in the high-risk group compared to the low-risk group.

The main prognostic factors were age, gender, clinical T stage, pathologic N stage, PET-uptake, surgical margin status, and number of lymph node metastases. Of these, age, gender, clinical T stage, and number of lymph node metastases were present in all patients and were used to analyze gene expression in relation to clinicopathological parameters. The surrogates for chemosensitivity are monoresistance genes such as BRCA1, RRM1, ABCC5, ERCC1, and markers for chemosensitivity is a new way to treat patients with NSCLC.

Promising results are obtained using RT only or with chemotherapy. And these should be considered as stratification factors for treatment.

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Our results show that adjuvant chemotherapy using "RNeasy Plus Mini Kit" (QIAGEN, Germany) is feasible. The analysis of gene expression in the main group showed that ABCC5, RRM1, ERCC1, TUBB3, TYMS, and ABCC5 are promising markers for chemosensitivity.

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