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Lymphoepithelioma-Like Carcinoma of the Lung: A Rare Case Report and Review of the Literature

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Introduction: Lymphoepithelioma-like carcinoma (LELC), is a rare type of cancer and typically occurs in pharyngeal and foregut-derivative organs, including the salivary glands, thymus, stomach and liver. Primary LELC of the lung, which is a subtype of non-small cell lung cancer(NSCLC) was first studied in 1987,by Begin et al. Pulmonary LELC typically affects the young and non-smoking population, and is associated with Epstein-Barr virus (EBV) infection. EBV infection was detected in most of the reported cases, most of which were East Asians. We present a rare case with a pulmonary mass on CT scan of the thorax, which was subsequently proved as a LELC of the lung and a brief review of the relevant literature.

Case Presentation: The patient is a 51-year old Turkish man, presented with shorthness of breath and mild cough for 1 months. He has no chronic disease. Chest x-ray was normal. Chest CT scan showed a 30×25mm heterogeneously enhanced mass lesion with well-defined margin and lobulated contour, in the left lower lobe of the lung. Bronchoscopy showed no endobronchial lesion. After the PET-CT, the patient was staged as cT2aN1M0 (Stage 2B). He received video-assited thoracoscopic surgery, of left lower lobe of the lung and mediastinal lymph nodes dissection. His Ebv-Dna is Positive in blood tests. The pathology, immunohistochemical staining, and in situ hybridization results confirmed LELC of the lung. Using in situ hybridization with exhibition of abundant EBV-encoded small nuclear RNA, in the majority of tumor cells is done. Immunohistochemical staining was positive for cytokeratin (CK), a marker which was almost always positive in LELC of lung. He was discharged 10 days after the operation. He received 4 cycles of induction chemotherapy with cysplatine and vinoralbine. The patient was discharged from hospital with close follow-up. No recurrence has been detected so far. Primary pulmonary LELC is a rare malignant tumor which accounts for only 0.9% of all primary lung cancer, and only represents 0.4% of NSCLC. Previous studies have demonstrated that pulmonary LELC is strongly associated with EBV infection. The majority of pulmonary LELC patients receive complete resection, as well as chemotherapy and radiotherapy based on their clinical stage. Comparing to other non-small cell cancer (NSCLC), pulmonary LELC is more sensitive to chemotherapy and radiotherapy, which is similar to EBV associated NPC (Nasopharyngeal Carcinoma).

Conclusion: Pulmonary LELC are similar to those of bronchogenic carcinomas in the majority of cases. LELC of lung may be mistaken histopathologically for metastatic nasopharyngeal carcinoma or lymphoma. Its association with latent EBV infection have major implications for diagnosis and treatment. We present this case, because, it's an unusual case with a pulmonary mass of the thorax, which was proved as a LELC of the lung.

Keywords: Lymphoepithelioma-like carcinoma (LELC), Epstein-Barr virus (EBV), NPC (Nasopharyngeal Carcinoma), cytokeratin (CK)