metastases to and from the lung

INCIDENCE OF BRAIN METASTASES IDENTIFIED UPON INITIAL DIAGNOSIS IN DIFFERENT HISTOLOGICAL TYPES OF LUNG CANCER: A SINGLE DEPARTMENT EXPERIENCE

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Aim: Brain metastases are the most common intracranial neoplasms in adults. The incidence of brain metastases in diverse malignancies vary from 9 to 17% based on different studies. Lung cancer is the most common primary tumor that spreads to central nervous system with an estimated incidence about 20%. Median survival of patients with brain metastases is usually poor.

Methods: In retrospective analysis of lung cancer patients diagnosed at our department between January 1, 2012 and December 31, 2013, we examined incidence of patients with brain metastases. We also sorted out patients that presented with brain metastases prior to lung cancer diagnosis. At the end we examined the frequency of different histological types of lung cancer related to brain metastases.

Results: During the two-year period at our department there were 384 newly diagnosed lung cancer patients. In 45 of them (11.7%) brain metastases were identified upon initial diagnosis and another 45 (11.7%) developed brain metastases in the further course of the disease. In total, there were 90 patients with metastatic spread to brain which made 23.4% of all cases. Considering the contribution of each histological type, brain metastases were the most common in small cell lung cancer with 36%, adenocarcinoma 27% and squamous cell carcinoma 12%, respectively. In the group of patients with brain metastases identified upon initial diagnosis 57.7% of cases were adenocarcinomas, 13.3% squamous cell carcinoma, SCLC 11.1%, and other NSCLC were found in 17.7% of cases.

Conclusions: Brain metastases are common metastatic site of lung cancer. Small cell carcinoma and adenocarcinoma are histological types with major frequency of brain metastases. In the group of patients with progression to central nervous system, half of them had brain metastases as the first sign of lung cancer. Among them the most frequent histological type was adenocarcinoma. It is still unclear why in some patients brain metastases appear before any other sign of disease.

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