

Asymptomatic pulmonary embolism in lung cancer: prevalence and analysis of clinical and radiological characteristics in 141 outpatients

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ABSTRACT

Aims and background. The incidence of asymptomatic pulmonary embolism in cancer patients is unknown and strictly related to the imaging used for tumor assessment. Recent findings suggest a similar clinical outcome of asymptomatic pulmonary embolism events compared to symptomatic events with a significant impact on survival. The aim of the present study was to determine the prevalence of asymptomatic pulmonary embolism in a population of lung cancer outpatients and to investigate its clinical features.

Methods. Outpatients with a diagnosis of lung carcinoma undergoing chemotherapy were selected from October 2006 to June 2009. Disease and patient characteristics, risk factors and treatment modalities were collected. All the computed tomography images performed for each patient during the study period were retrospectively reviewed to identify pulmonary embolism.

Results. A total of 141 consecutive patients were included and 657 computed tomography scans were completely reviewed (from two to six consecutive scans for each patient). Asymptomatic pulmonary embolism in the study population had a prevalence of 14.9% (21 patients). Most of the events occurred in patients with adenocarcinoma, advanced stage and poor performance status, during the early phases of first-line chemotherapy or at the same time of the cancer diagnosis. Compared with the symptomatic pulmonary embolism events (5 patients), asymptomatic events occurred earlier (time from cancer diagnosis to pulmonary embolism of 3.5 [95% CI, 2.0-4.9] *versus* 12.1 months [95% CI, 6.3-17.9; $P = 0.02$]) and had a better prognosis (survival from PE of 7.5 [95% CI, 3.4-11.6] *versus* 1.9 months [95% CI, 0-3.9; $P = 0.04$]).

Conclusions. Our findings indicate an underestimation of embolic events among lung cancer outpatients due to their frequent asymptomatic nature. Such a high prevalence suggests the importance to pay more attention to pulmonary embolism prevention in this population.

Key words: asymptomatic pulmonary embolism, lung cancer, pulmonary embolism.

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