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Prognostic value of plasma D-dimer levels in lung carcinoma

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ABSTRACT

Aims and backgrounds. Plasma concentrations of several proteases of the coagulation system have been shown to predict prognosis in malignancy. The study was aimed to investigate the prognostic value of plasma D-dimer concentrations and some other coagulation factors in lung cancer.

Methods. Between 2004 and 2008, 100 newly diagnosed lung cancer patients and 25 healthy individuals serving as the control group were evaluated. The patients had no history of coagulation system disorders or anticoagulant therapy. Plasma D-dimer concentrations, prothrombin time, activated partial thromboplastin time, international normalized ratio and blood counts of the patients were obtained. Patient age, lung cancer stage, tumor histology, therapy modalities (surgery, chemotherapy and radiotherapy), therapy outcomes and survival durations of the patients were determined.

Results. The median age of the patients (86 males/14 females) was 67 years, and 15% had stage 2, 26% had stage 3A, 24% had stage 3B, and 35% had stage 4 disease. Histologic subtypes were non-small cell carcinoma (87%) and small cell carcinoma (13%). The median D-dimer level of the patients was 1250 ng/dl, which was significantly higher than that of the control group. Survival duration was significantly higher in patients with low D-dimer levels (P <0.05). D-dimer plasma levels predicted survival independently of the clinical stage of disease, histologic tumor type and performance status of the patient (HR = 5.1; 95% confidence interval, 1.015-1.19, P = 0.013). Plasma D-dimer level was significantly higher in metastatic disease (P <0.01).

Conclusions. The results suggest that D-dimer plasma levels might be useful to predict the clinical outcome and survival of patients with lung cancer.

Key words: D-dimer, lung cancer, prognosis, survival.

Conflict of interest: The authors declare that they have no conflict of interest of any organization or firm.

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