

Clinical Significance of CK20, CK19, CEA mRNAs in Peripheral Blood from Lung Cancer Patients

Ying GUO, Jingmei WANG, Peilin HUANG






摘要

Background and objective The tumor cells may disseminate into circulation even in early stages. However, the numbers of such cells are so small that they cannot be detected by conventional diagnostic methods. Developments in molecular technology have made it possible to detect small numbers of tumor cells in peripheral blood. In this study, 83 preoperative peripheral blood samples from patients with lung cancer were analyzed for the determination of CEA, CK19, and CK20 mRNA expression in peripheral blood, and its clinical significance was evaluated. **Methods** Nested reverse transcriptase-polymerase chain reaction (nested RT-PCR) was used to analyze CEA, CK19, and CK20 mRNA expression in peripheral blood. Fresh tumor tissues from patients with esophageal cancer (n=15) were used as a positive control, and blood samples from 15 healthy volunteers as a negative control. **Results** Among 83 blood samples from patients with lung cancer, the expression of CK20, CK19 and CEA mRNA was 41.0%, 36.1% and 48.2%, respectively. 73.5% were positive for at least one markers for these three genes, and were significantly correlated with the metastasis of the cancer ($P < 0.05$), but had no correlation with age and sex. In primary esophageal tumors, 15 tumor tissues were all positive for CEA, CK19, and CK20 mRNA. 2 of 15 blood samples from healthy donors were positive for CK19 and CEA mRNA, and 1 of 15 blood sample positive for CK20 mRNA. **Conclusion** The three markers of CK20, CK19 and CEA mRNA could be the target genes in detecting circulating tumor cells in peripheral blood from patients with lung cancer. The combined detection of CK20, CK19 and CEA mRNA by RT-PCR assay may contribute to the PCR positivity and sensitivity, and CK20, CK19, CEA mRNA expression increase the specificity.



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ABOUT THE AUTHORS

Ying GUO

Jingmei WANG

Peilin HUANG

**thoracic
CANCER**

主编
Qinghua Zhou
Yan Sun
www.thoraciccancer.net

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