

## Clinical research of perioperative serum VEGF and MMP-9 levels in patients with non-small cell lung cancer

Ying HU, Baolan LI, Changxing SONG

### 摘要

Background and objective Angiogenesis is necessary in tumor progression and metastasis. Serum vascular endothelial growth factor (VEGF) and matrix metalloproteinase-9 (MMP-9) are important factors in angiogenesis. Elevated levels of VEGF and MMP-9 were reported in lung cancer. The aim of this research is to study the dynamic changes of serum VEGF and MMP-9 levels in non-small cell lung cancer (NSCLC) patients who underwent surgery. Methods Serum VEGF and MMP-9 levels were determined in 57 patients with NSCLC who were undergoing surgery by ELISA (enzyme linked immunosorbent assay) method before operation and on postoperative day 1, 7, 14. At the same time 18 patients with pulmonary benign diseases treated by surgery were studied as the control. Thirty healthy volunteers served to define normal VEGF and MMP-9. Results Preoperative serum VEGF levels (685.50 pg/mL) was significantly higher in the group of patients with NSCLC compared with the benign and healthy group (respectively: 160.90 pg/mL, 94.40 pg/mL) ( $P < 0.01$ ); Serum VEGF levels were elevated after surgery and the levels were 1055.60 pg/mL, 1533.90 pg/mL, 1882.10 pg/mL, respectively, on postoperative day 1, 7, 14 ( $P < 0.01$ ). 2 Preoperative serum MMP-9 level (84.48 ng/mL) was significantly higher in the group of patients with NSCLC compared with the benign and healthy group (respectively: 58.98 ng/mL and 42.94 ng/mL,  $P < 0.01$ ); Serum MMP-9 levels were elevated soon after surgery and the peak (282.99 ng/mL) was observed on postoperative day 1 in NSCLC. Then serum MMP-9 levels dropped (respectively: 221.14 ng/mL and 194.78 ng/mL on postoperative 7 and 14) ( $P < 0.01$ ). Conclusion Preoperative serum VEGF and MMP-9 levels were both significantly higher in the group of patients with NSCLC compared with the benign and healthy group. Perioperative serum VEGF and MMP-9 levels were both significantly elevated in patients with NSCLC.






### 关键词

Lung neoplasms; Vascular endothelial growth factor; Matrix metalloproteinase 9; Enzyme linked immunosorbent assay





全文: [PDF](#)



### ARTICLE TOOLS

-  [索引源数据](#)
-  [如何引证项目](#)
-  [查找参考文献](#)
-  [审查政策](#)
-  [Email this article](#)  
(Login required)

### RELATED ITEMS

-  [Related studies](#)
-  [Databases](#)
-  [Web search](#)
-  [Show all](#)

### ABOUT THE AUTHORS

Ying HU

Baolan LI

Changxing SONG

