

Serum levels of interleukin-6 in patients with non-small cell lung cancer

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BACKGROUND: Chronic inflammation has been associated to cancer survival and proliferation. Circulating biomarkers have been used as prognostic markers for survival in cancer patients and the interleukin (IL) - 6 is one such markers. It is produced by various types of normal and cancer cells, and is involved in the tumor cell proliferation, malignant transformation and tumor progression. We aim to investigate the association between circulating IL-6 level with survival and others factors in patients with non-small cell lung cancer (NSCLC).

HYPOTHESIS: High circulating IL-6 level in NSCLC might promote tumor cell proliferation and consequently tumor progression, favoring the low survival time.

METHODS: The study enrolled 27 patients with histologically confirmed diagnosis of NSCLC. Blood samples were collected in EDTA tube and kept under refrigeration until the time of centrifugation to obtain the plasma. These samples were stored at -80°C until use. Serum level of IL-6 was measured using the cytometric bead assay (BD FACSCanto™ II). The survival rate was estimated by Kaplan-Meier and evaluation of association between the IL-6 level and survival time was made through the long-rank test, using as cutoff value 10.4, obtained through the ROC curve. The Mann-Whitney test was used to analyze the association between IL-6 level and gender, smoking history, histologic type and staging tumor.

RESULTS: The mean of IL-6 level was 13.15 (SD: 11.93) with the median 7.84 (5.94 - 71.69). The previous results showed that there was not significant association between the IL-6 level and gender ($p=0.507$), smoking history ($p=0.259$) and histologic type ($p=0.215$). However, association significantly higher ($p=0.002$) was observed between IL-6 level and staging of tumor. Moreover, the results showed that survival at 12 months was 50.2% and a significant association with IL-6 ($p=0,017$). The survival time at 12 months for patients with low IL-6 level (< 10.4) was 80% and for those with high IL-6 level (≥ 10.4) was 31.5%. Therefore, preliminary results showed that high IL-6 level might be associated with low survival time in patients with NSCLC.