Oncology of the chest

Clinical implications of HGF, IL-20 and IL-22 levels in serum and BALF of advances non-small cell lung cancer (NSCLC).

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Question. Hepatocyte growth factor (HGF) is involved in tumorigenesis, but its role in NSCLC has not yet been determined. Recently, it has been discovered that IL (interleukin)-20 and IL-22 have the opposite effect with respect to cancer cells. IL-20 is inhibitor of angiogenesis and IL-22 stimulates the tumour growth. The aim of this study was to evaluate the clinical usefulness of HGF, IL-20 and IL-22 levels in patients with advanced NSCLC.

Methods. The study group included 46 patients with NSCLC prior to chemotherapy and 15 healthy volunteers. The levels of HGF, IL-20 and IL-22 were measured (ELISA) in serum and BALF samples.

Results. In NSCLC patients we observed higher serum levels of HGF and IL-22 levels than in healthy [serum pg/ml: HGF- 1911 (693-6510) vs 1333 (838-3667), p=0.0004; IL-22- 10.7 (1.4-70.3) vs 4.7 (0.3-12.3), p=0.0007]. On the contrary, concentrations of HGF and IL-22 in BALF of NSCLC subjects were lower than in healthy persons [BALF pg/ml: HGF- 72.6 (6.9-561) vs 488.6 (14.5-2003), p=0.0002; IL-22 - 2.3 (0.7-6.5) vs 3.7 (2.8-5.6), p=0.002]. We found a negative correlation between the serum levels of IL-20 and time to progression (R=-0.405, p=0.04) as well as serum HGF and survival time (R=-0.41, p=0.005). A higher serum level of HGF and higher BALF level of IL-22 in NSCLC patients were linked with shorter overall survival and disease-free survival (p=0.03; p=0.004).

Conclusions. Our findings confirmed that the measurement of HGF, IL-20 and IL-22 levels in serum and BALF of patients with NSCLC prior to treatment may have clinical usefulness and predict the poor prognosis.