

Chronic lymphocytic leukemia (CLL) is the most common leukemia, which is characterised by a high variable progress. According to scientific evidence acquired during several last years, angiogenesis has been proven to play an important role in pathogenesis of CLL. One of the very important cytokines playing role in this process is angiopoietin-2 (Ang-2). Elevated expression of Ang-2 has been reported in several hematological malignancies; however, data regarding Ang-2 in CLL are very limited.

I measured Ang-2 transcript levels in purified mononuclear cells of 24 untreated patients with CLL by quantitative real-time PCR and normalized them for differences in RNA concentration in each sample by quantitation of transcript of Abl1 housekeeping gene. Elevated Ang-2 mRNA concentrations were detected in 10 cases (Ang-2 to Abl1 expression ratio  $> 5 \times 10^{-3}$ ). On the other hand, 14 patients had very low or undetectable levels of Ang-2 mRNA (Ang-2 to Abl1 expression ratio  $< 5 \times 10^{-3}$  or Ang-2 Cp  $> 35$ ). The association between Ang-2 expression and other prognostic factors, clinical stage according to Rai and clinical course of CLL was evaluated by Chi-Square method. There was a significant association between high Ang-2 mRNA levels and unmutated IgV<sub>H</sub> genes (n= 21, p = 0.012), but not with CD38 (p = 0.057), ZAP-70 expression (p = 0.410) Rai stage 0 vs. I-II (p = 0.069) or clinical course (stable vs. progressive, p=0.39).

This pilot study has shown that increased Ang-2 expression is associated with IgV<sub>H</sub> mutation status of patients with CLL. According to our findings, angiogenesis can play an important role in pathogenesis of CLL and can contribute to poor prognosis of patients with CLL but further analyses with more patients are necessary to prove our results.