Aim: Angiogenesis is implicated in carcinogenesis and tumor progression. Angiopoietin-2 (Ang-2) is a protein involved in the regulation of vascular remodeling. Its seric level has been proposed as an interesting biomarker in mCRC patients. Nowadays, specific prognostic biomarkers helping the clinician to manage its first line treatment strategies are still lacking. We therefore decided to establish the additional prognostic value of Ang-2 for overall survival (OS) in first line metastatic colorectal cancer patients.

Methods: We enrolled 177 patients treated with a bevacizumab containing chemotherapy in two prospective phase II clinical trials. Patient plasma samples were collected at baseline. Enzyme-linked immunosorbent assays (ELISA) were used to measure Ang-2 in plasma samples.

Results: The multivariable Cox model identified that increased LDH (HR = 1.60, 95% CI = 1.04-2.45, p = 0.03) and Ang-2 level (HR = 1.59, 95%CI = 1.14-2.21, p = 0.0065, with log-transformation) were two significant independent prognostic factors for OS. It exhibited good calibration (p = 0.8) and discrimination (C-statistic 0.64; 95% CI = 0.58-0.68). The inclusion of the Ang-2 parameter in the GERCOR reference model significantly and strongly improved its discriminative ability since the C-statistic increased significantly from 0.61 to 0.63 (bootstrap mean difference = 0.07, 95% CI = 0.069-0.077). Interestingly, using an Ang-2 binary information with a 5 ng/mL cut off value, patients having an intermediate risk profile (41%) were reclassified into two subsets of low and high risks.

Conclusions: Our study provides robust evidence in favor of Ang-2 prognostic value for OS at baseline adding to the conventional factors. Assessment of Ang-2 appears to be useful for the improvement in risk stratification for patients with intermediate risk profile.

Disclosure: All authors have declared no conflicts of interest.