

7P Monocyte-to-lymphocyte ratio (MLR) and LDH level in metastatic colorectal cancer (mCRC) patients (pts)

D. Basile¹, L. Gerratana¹, C. Corvaja¹, G. Pelizzari¹, S.K. Garattini¹, C. Lisanti¹, M. Bartoletti¹, L. Bortot¹, V. Fanotto¹, E. Ongaro¹, F. Cortiula¹, A. Parnofiello¹, M.G. Vitale¹, L. Da Ros², P. Di Nardo², E. Torrisi², M. Guardascione³, G. Miolo⁴, A. Buonadonna², F. Puglisi⁵

¹Department of Medicine (DAME), University of Udine, Udine, Italy, ²Unit of Medical Oncology and Cancer Prevention, CRO National Cancer Institute, Aviano, Italy, ³Clinical and Experimental Pharmacology, CRO di Aviano, Aviano, Italy, ⁴Unit of Medical Oncology and Cancer Prevention, Centro di Riferimento Oncologico, Aviano, Italy, ⁵Unit of Medical Oncology and Cancer Prevention, Department of Medicine (DAME), CRO National Cancer Institute, University of Udine, Aviano, Italy

Background: Tumor microenvironment (TME) is a pitch for multiple players, where the crosstalk between tumor and immune cells determines the fate of tumor progression. In fact, immune system may either destroy or paradoxically promote cancer growth, by recruiting immunosuppressive and inflammatory cells. MLR and LDH levels could be dynamic biomarkers that provide indirect information about TME and are associated with poor prognosis in many tumors. Therefore, we evaluated their prognostic impact in mCRC pts.

Methods: We conducted a retrospective cohort study evaluating consecutive data of 165 mCRC pts treated in 2004-2017 at the Unit of Medical Oncology and Oncology Prevention, CRO of Aviano. The prognostic impact of MLR and LDH levels on overall survival (OS) was analyzed through uni- and multivariate Cox regression analysis.

Results: At median follow-up of 61.87 months, median OS was 30.74 months. Overall, 100 pts (62%) were aged <65, 63 pts (39%) had a left tumor, 9 (6%) had a BRAF mutation and 45 (28%) had a KRAS mutation, underestimated for the missing data. High levels of LDH (>480 U/L) and MLR (>0.44) were discovered in 35 (21%) and 40 pts (24%), respectively. By univariate analysis, resection (HR 0.25, P < 0.001, 95% CI 0.14-0.45), metastasectomy (HR 0.46, P < 0.001, 95% CI 0.30-0.70) and sidedness (left tumors: HR 0.58, P = 0.035, 95% CI 0.36-0.96) were associated with better OS. Conversely, older age (HR 1.63, P = 0.014, 95% CI 1.10-2.42), KRAS mutation (HR 1.77, P = 0.017, 95% CI 1.19-2.85), LDH or MLR high (HR 2.92, P < 0.001, 95% CI 1.77-4.79) or both (HR 4.02, P < 0.001, 95% CI 1.93-8.37) were associated with worse OS. By multivariate analysis, metastasectomy (HR 0.53, P = 0.04, 95% CI 0.29-0.97), KRAS mutation (2.10, P = 0.014, 95% CI 1.16-3.79), LDH or MLR high (HR 3.05, P < 0.001, 95% CI 1.68-5.55) or both (HR 2.65, P = 0.039, 95% CI 1.05-6.68) confirmed their impact on OS. Interestingly, high MLR was associated with right and rectum tumors P = 0.007).

Conclusions: We showed that high baseline LDH, MLR or both are poor prognostic factors in mCRC pts adding further evidence of the interlink between immune system, inflammation and cancer. However, further prospective and translational studies are needed to better deepen this topic.

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