The relationship between serum inflammatory markers and the presence of weight loss and quality of life in refractory metastatic colorectal cancer patients

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Introduction: The relationship between IL-6 signaling and disease progression in cancer patients has been widely investigated. An anti-inflammatory therapy is being developed for refractory mCRC patients, including those with elevated IL-6 levels. Therefore, we looked for a possible correlation between IL-6 and CRP levels with the presence of general symptoms like weight loss and overall quality of life in order in metastatic colorectal cancer (mCRC) patients at baseline prior to initiation of therapy.

Methods: Between July and December 2014 data from a cohort of 32 patients with refractory, symptomatic mCRC from a single investigative site was analyzed. All patients had been treated and relapsed on both cytotoxic chemotherapy and targeted agents, and were ineligible for any further anti-cancer interventions. Cytokine levels were tested at a single reference laboratory. The amount of weight loss in the previous 6 months was reported by the patient. Quality of life was assessed using the validated EORTC QLQ-C30 questionnaire before initiation of therapy.

Results: 71% of patients (23 of 32) had increased IL-6 levels (above 10 pg/ml; range 0.72-70.09). Notable, the patients with high IL-6 levels were more likely to report weight loss of any degree in the previous 6 months. There was a strong correlation between elevated IL-6 levels and CRP elevation (R = 0.84). Eighty one percent of patients with serum CRP level above 10 mg/l had increased levels of IL-6. This fraction goes to 90% when 15 mg/l cut off for serum CRP level is used. Notable there is weak association between IL-6 levels and fatigue and appetite loss in EORTC QLQ-C30 symptom scales.

Conclusion: The incidence of elevated serum IL-6 levels in refractory metastatic colorectal cancer is high and correlates with baseline cancer related symptoms and weight loss. This observation suggests that agents which target systemic inflammation may provide clinical benefit for patients with advanced mCRC [NCT02138422].