Improvement of metastatic colorectal cancer patient survival: Single institution experience

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Introduction: The outcome of patients with metastatic colorectal cancer (mCRC) has significantly improved over the last two decades, reaching a median overall survival (mOS) of around 30 months, more than double that 20 years ago. Both surgery and a more aggressive systemic approach may have contributed to this result. The aim of this study is to describe the evolution of survival of mCRC patients followed at a single institution over the past 17 years, investigating the possible influence of tumour characteristics, as well as the changes in treatment practice through the years.

Methods: We retrospectively collected data from 788 mCRC patients treated from 2001 to 2016. As molecular targeted agents were introduced in clinical practice in 2007, in order to detect survival changes, patients were divided into two groups according to the year of metastatic disease diagnosis: Cohort A (between 2001 and 2006) and Cohort B (between 2007 and 2014).

Results: 788 patients with a minimum follow-up period of two years were analyzed (365 in Cohort A and 423 in Cohort B). The mOS was 32.0 months (95% CI; 28.8 to 35.3 months). Patients’ survival in Cohort B was significantly longer compared to Cohort A (median 33.5 months vs 29.2 months respectively, HR 0.832; 95% CI 0.697-0.992; p = 0.041). Surgical procedures increased from 42% in Cohort A to 58% in Cohort B, p < 0.009; particularly extra-hepatic surgery (from 21.4% to 33.9%; p < 0.005). No differences in survival of patients who underwent surgery – in addition to a systemic treatment – were detected between Cohorts (median 58.9 months vs 58.2 months, HR 1.033; 95% CI, 0.779-1.369; p = 0.822). Similarly, we failed to demonstrate a survival improvement in patients treated with systemic treatment alone (with or without targeted agents): mOS 18.9 months in Cohort A vs 20.7 months in Cohort B (HR 1.0 - IC 95% 0.799-1.271; p = 0.948). At the multivariate analysis, a right-sided primary tumour and synchronous metastatic disease were found independent unfavorable prognostic factors. In these subgroups, survival improved in Cohort B. In particular, in patients with right-sided tumours, median survival was 18.5 months in Cohort A and 23.8 months in Cohort B (p = 0.041).

Conclusion: The results of our studies suggest that in current clinical practice, unless patients are classified as unfit for therapy, the therapeutic strategy is moving towards intensive treatment where at least two cytotoxic therapies are combined together with biological agents, and a multimodal approach where surgery of metastatic sites is considered feasible. This approach seems to increase patient survival. In particular, it is likely that poor prognostic subgroups of mCRC patients would benefit from an integration of medical and surgical treatments in a ‘continuum of care’ strategy.