Colorectal cancer patients with lung-only metastases have a favorable prognosis irrespective of treatment

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Introduction: The most frequent sites of mCRC spread are the liver and lungs. Different metastatic sites may be linked to genetic characteristics of the tumor, and might imply different prognosis. Based upon clinical observation we hypothesized that patients with lung-only metastases have a better outcome. Our study aimed to prove this hypothesis.

Methods: This is a retrospective cohort of consecutive mCRC patients treated at Sheba Medical Center between 2/2014 and 4/2015, using computer-based medical records. Overall survival (OS) was defined from diagnosis of metastases until death or last follow up. Data collected included gender, primary location (colon/rectum), age, stage at diagnosis, metastatic site (liver/lung/peritoneum/other), metastasectomy (yes/no/stereotactic body radiotherapy SBRT). OS was calculated using the Kaplan-Meier method and Cox regression analysis performed.

Results: 199 patients are included in this analysis: 54% male 46% female, median age 62 years (range 21–90). 28 patients (14%) had lung-only disease, 41 patients (20.6%) had liver-only disease, 9 patients (4.5%) had peritoneal-only metastases; the remaining 121 subjects had other and/or multiple sites of metastases. 3 years OS was 72%, median survival was not reached. Amongst 28 patients with lung only metastases – 12 underwent surgery (2 also underwent SBRT), 8 SBRT only and 8 had no local treatment. Patients with metastases only to the lung had the best OS, and patients with a single site of metastases lung or liver had better OS compared to patients with metastases in both the liver and lung: 5-year OS was 94%, 84% and 41% respectively (p < 0.001). Patients with liver-only metastases who underwent metastasectomy (27 pts) had better OS compared to patients who did not (14 pts) (2yr survival, 95% vs 56%, p < 0.05). However patients with lung-only metastases had the same OS, whether local treatment was performed (20 pts) or not (8 pts) (2yr survival 100% vs 100%). On multivariate analysis only younger age and metastatic spread to lung remained significantly associated with improved OS.

Conclusion: This real life retrospective analysis demonstrates that lung-only metastatic CRC patients have good survival, even without metastasectomy or local treatment. In the future, prospective trials should address these issues by stratification according to patterns of metastatic spread and explore the role of routine lung metastasectomy.