Resection of lung metastases from colorectal cancer: analysis of outcome and prognostic factors

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Background: Surgical removal of liver metastases can provide a chance of cure for selected patients (pts) with metastatic colorectal cancer (CRC). Less data are currently available on CRC lung metastases resection. The aim of our study was to analyse the effectiveness of CRC lung or lung and hepatic metastases resection.

Material and methods: We retrospectively analysed outcome and clinicopathologic features of 79 pts who underwent only lung or both liver and lung resection for metastatic CRC from 2000 to 2014 at our institution.

Results: Among pts, 45 were men and 34 women. Mean age was 62.6 years. All pts underwent resection of primary tumour and 81% received an adjuvant chemotherapy treatment. Pts with unilateral metastases were 90% and 64.6% had a single metastasis. Most of them (70.9%) had small lung nodules with larger diameter less than 2 cm. Most of them (70.9%) received also a peri-operative chemotherapy treatment. Fifty-two pts (65.8%) had lung and liver resection, 42 pts (80.8%) liver first, 9 (17.3%) lung first and 1 a simultaneous resection of liver and lung. At a median follow-up of 35.1 months, 77.1% are alive and 64.1 are disease-free. Median survival was 26.3 months (87.3% at 1 year, 34.7% at 3 years and 23.6% at 5 years). Pts with unilateral disease had a significantly higher survival (87 vs. 31 months, p = 0.02; confidence interval 0.04-0.8). Survival from lung resection for pts who underwent both liver and lung resection was 29.2 months. Prognostic factors for this subset of pts were the presence of solitary or multiple lung metastases (87 vs. 31 months, respectively, p = 0.03; confidence interval 0.11-0.91) and unilateral vs bilateral disease (87 vs 23 months; p = < 0.0001; confidence interval 0.11-0.91). A trend of benefit on survival was observed in pts with K-RAS wild-type tumours and disease-free interval = 36 months.

Conclusion: Our data suggest that the resection of lung metastases for patients with CRC is feasible and could have an impact on overall survival, also for those who underwent hepatic resection. More data on clinical and biological prognostic factors from larger and prospective studies are necessary for a better selection of patients who could benefit from a repeated surgical approach in the continuum of care.