



Pulmonary metastases in hepatoblastoma

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Background: Metastasectomy following chemotherapy is a potentially curative treatment for pulmonary metastases of hepatoblastoma, yet its timing and the number of neoadjuvant cycles remain to be established. This study aimed to investigate features associated with outcome in hepatoblastoma metastasized to the lungs.

Material/Method: A retrospective cohort study was conducted on all patients with hepatoblastoma, and concomitant pulmonary metastases treated at Hôpital Kremlin-Bicêtre and Karolinska University Hospital from 1st of January 2007 to 31st December 2021. Clinicopathological data including tumour biology and staging, chemotherapeutic response and histopathological analyses of resected liver tumours and metastases were registered. Survival was assessed by the Kaplan-Meier method and Cox regression analysis.

Results: Out of 49 patients, (n=43 in the French cohort and n=6 in the Swedish cohort), complete response was observed in 22 patients (45%) and pulmonary metastasectomy was performed in 25 patients (51%). Chemotherapy according to SIOPEL 3 was given to 15 patients (35%), SIOPEL 4 to 18 patients (42%) and PHITT group D to 7 patients (16%). Metastasectomy was performed before liver surgery in 12 patients (48%), perioperatively in 7 patients (29%) and after liver surgery in 6 patients (25%). The median follow-up was 56 months during which pulmonary recurrence occurred in 16 patients (32%) and in 12 out of 25 patients (48%) that had undergone metastasectomy. Pulmonary recurrence was almost significantly associated with poor survival, hazard ratio 5.16 (CI 0.98- 27.05), p=0.052.

Conclusion: Metastasectomy for pulmonary metastases can enable long-term survival in patients with metastasised hepatoblastomas, yet the risk of recurrence stresses the importance of effective neoadjuvant oncological therapy. The timing of the metastasectomy in relation to liver surgery varies and can safely be performed before and after liver surgery.