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Introduction: Liver resection has become a safe procedure and it is the best chance for cure in patients with colorectal liver metastases. However, studies have demonstrated that postoperative complications could have an impact on long-term survival. The aim of this study was to determine the incidence and prognostic factors for postoperative complications and their impact on long-term survival. Methods: This study included prospectively collected information regarding patients who underwent liver resection for colorectal liver metastases between 1998 and 2009. Any deviation from the usual postoperative course was recorded and stratified according to the Clavien-Dindo classification. Prognostic factors for morbidity and survival were established. Results: Two hundred and nine (209) liver resections were performed in 170 patients. There were 91 men and 79 women. Median age was 59 (23 - 80) years old. One hundred sixteen patients had comorbidities and the most common were steatosis and arterial hypertension. According to the American Society of Anaesthesiology classification there were 23 grades 1, 118 grades 2, 28 grades 3 and one grade 4 patient. Median Body Mass Index (BMI) was 26.2 (16.6 – 38,8). Pre-operative chemotherapy was administered in 89 patients (44.3%). Eight patients underwent a two-staged procedure and 28 underwent re-hepatectomies (26 two resections, 1 three resections and 1 four resections). There were 100 (47.8%) major liver resections (more than 3 liver segments). Sixty-one patients (29.1%) received blood transfusion. Postoperative morbidity occurred in 53.1% of the operations. Major complications (grade 3 and 4) were 41.7% of all morbidity events and happened in 22.0% of the hepatectomies. In multivariate analysis, simultaneous resection of the primary tumor and metastasis, ASA classes 3 and 4, major liver resections, blood transfusions and body mass index were independent prognostic factors for morbidity. The ASA classification 3 and 4 and the need for blood transfusion also influenced the occurrence of major postoperative complications. The group of patients classified as Clavien 3 and 4 had worse overall survival. However, the disease free survival was not influenced by the occurrence of postoperative complications, even by the major ones. Conclusion: Major postoperative complications (Clavien's classification) were an independent prognostic factor for overall survival but did not influence disease-free survival. Their prevention is expected to improve postoperative and survival outcomes of patients with colorectal liver metastases.

