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Introduction: Thrombocytosis accompanying solid tumors and predicting the prognosis of malignant tumors has been the subject of intensive research lately. Reports so far have evaluated the role of preoperative platelet count. In our present study we looked at the effect of tumor removal on platelet count and the predictive power of postoperative thrombocytosis on the survival of patients with colorectal cancer (CRC).

Methods: We retrospectively evaluated the clinical and histopathological data of 336 patients operated due to CRC between 2001 and 2011. Thrombocytosis was defined as a platelet count exceeding 400 × 10^3/μL. Preoperative platelet count was compared with the value measured 1 month postoperatively. Results: The platelet count significantly decreased after the removal of the primary tumor (paired Wilcoxon test p <0.001). In univariate analysis reoperative thrombocytosis was a significant marker of overall survival (OS) with HR 2.2, p <0.001 while the postoperative thrombocytosis was nearly significant with HR = 1.59, p = 0.087. In multivariate setting, when corrected for location, stage, tumor size and controlling for gender and age (>65 years vs. ≤65 years), both pre- and postoperative thrombocytosis were significant independent prognostic markers with HR 1.80, p = 0.20 and HR = 1.98, p = 0.018, respectively. Discussion and conclusion: Although the pathomechanism of thrombocytosis related to solid tumors is not known the decrease of platelet count after the removal of the primary tumor raises the possibility that the tumor may play an active role in the development of thrombocytosis. Furthermore, the observation of postoperative thrombocytosis with significant worse outcome underlines the predictive power of elevated platelet count.

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