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Titel des Beitrags: Risks of postoperative paresis in motor eloquently and non-eloquently located brain metastases.

Abstract: When treating cerebral metastases all involved multidisciplinary oncological specialists have to cooperate closely to provide the best care for these patients. For the resection of brain metastasis several studies reported a considerable risk of new postoperative paresis. Pre- and perioperative chemotherapy (Ctx) or radiotherapy (Rtx) alter vasculature and adjacent fiber tracts on the one hand, and many patients already present with paresis prior to surgery on the other hand. As such factors were repeatedly considered risk factors for perioperative complications, we designed this study to also identify risk factors for brain metastases resection. Between 2006 and 2011, we resected 206 brain metastases consecutively, 56 in eloquent motor areas and 150 in non-eloquent ones. We evaluated the influences of preoperative paresis, previous Rtx or Ctx as well as recursive partitioning analysis (RPA) class on postoperative outcome. In general, 8.7% of all patients postoperatively developed a new permanent paresis. In contrast to preoperative Ctx, previous Rtx as a single or combined treatment strategy was a significant risk factor for postoperative motor weakness. This risk was even increased in perirolandic and rolandic lesions. Our data show significantly increased risk of new deficits for patients assigned to RPA class 3. Even in non-eloquently located brain metastases the risk of...
new postoperative paresis has not to be underestimated. Despite the microsurgical approach, our cohort shows a high rate of unexpected residual tumors in postoperative MRI, which supports recent data on brain metastases’ infiltrative nature but might also be the result of our strict study protocol. Surgical resection is a safe treatment of brain metastases. However, preoperative Rtx and RPA score 3 have to be taken into account when surgical resection is considered.