Non-Small cell lung cancer intracranial metastases surgery

see Intracranial metastases surgery.

Surgical resection may be beneficial for a given group of patients: a preoperative KPS > 70; age < 55 years, complete surgical brain metastasis resection, no surgical complications, patients with primary lung surgery, and complete radiotherapy treatment. We did not find any significant difference regarding further factors that probably affect survival rates such as size or number of metastases [1)]

A retrospective study was designed to evaluate the benefits of surgical resection for 296 patients with NSCLC and brain metastases. Patients were grouped into those who underwent craniotomy (brain surgery group) and those who did not (non-surgery group). Characteristics, survival, and EGFR mutation status were compared between the two groups. We found that the clinical characteristics were similar between the two groups. However, patients in the brain surgery group had metastases of larger diameters (3.67 cm vs. 2.06 cm, P<0.001) and a lower rate of extracranial metastasis (8.7% vs. 45.5%, P=0.001). Overall survival was significantly longer for those who underwent brain surgery (40.3 months vs. 8.4 months, P<0.001). The adjusted hazard ratio of craniotomy was 0.30 (95% confidence interval [CI], 0.15-0.62). The survival benefit of brain surgery was observed in both EGFR mutation-positive and EGFR mutation-negative sub-populations; the adjusted hazard ratios [aHRs] were 0.34 [95% CI, 0.11-1.00] and 0.26 [95% CI, 0.09-0.73] for EGFR mutation-positive and mutation-negative sub-populations, respectively. We concluded that for patients with NSCLC and brain metastases, surgical resection of brain metastases improved overall survival. This survival benefit was particularly evident in cases with large-sized metastases limited to the brain [2)].

1)
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2)
Yen CT, Wu WJ, Chen YT, Chang WC, Yang SH, Shen SY, Su J, Chen HY. Surgical resection of brain metastases prolongs overall survival in non-small-cell lung cancer. Am J Cancer Res. 2021 Dec 15;11(12):6160-6172. PMID: 35018249; PMCID: PMC8727818.