

Primary central nervous system lymphoma surgery

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Surgical [decompression](#) with partial or [gross total resection](#) does not alter patient's prognosis.

Indication

The main indication for surgery:

[Biopsy](#): obtain solid tissue to ascertain that the tumor is lymphoma, and to determine the type of lymphoma. Stereotactic techniques are often well-suited for these often deep tumors ¹⁾

Although few data are available in the scientific [literature](#), surgery has traditionally been deemed to have no role in the treatment of [primary central nervous system lymphoma](#). This widely adopted opinion is based on small [retrospective](#) series, the results of which suggest no clear benefits in the outcome of surgical resection when used as a sole treatment, compared with supportive care (class IIIb) ²⁾ and compared with [evidence](#) from [biopsy](#) samples from patients who received postoperative [chemotherapy](#) or [radiotherapy](#) (class IIIb) ^{3) 4)}.

The absence of surgical effectiveness might be attributable to the microscopic, multifocal, and

infiltrative nature of primary CNS lymphoma that can extend beyond the visible border of the lesion ⁵⁾. The high radiosensitivity and chemosensitivity of primary CNS lymphoma, and the risk of postoperative morbidity in this patient population, have likewise helped discourage surgery. However, the recommendation to restrict surgical interventions to biopsies is not based on randomised data and, more importantly, not on contemporary data based on modern neurosurgical techniques. The German Primary CNS Lymphoma Study Group-1 (G-PCNSL-SG-1) phase 3 trial ⁶⁾ included an unusually high proportion of operated patients, which allowed a large retrospective analysis of the association of surgery and expected outcome. Patients with subtotal or total resections had significantly longer progression-free survival and overall survival than did patients who received biopsies. This difference in outcome was independent of the postoperative [Karnofsky Performance Score](#) and age. Since patients who had a biopsy more often had many deeply-seated CNS lesions than patients who received surgery, this difference might have contributed to the unfavourable outcomes in the patients who had biopsies. When adjusted for the number of lesions (depth of lesions was not analysed in the study), the difference in outcome remained statistically significant for [progression free survival](#), but not for [overall survival](#) ([class 3a study](#)) ⁷⁾.

Guidelines

To rapidly reduce [intracranial pressure](#), surgical [resection](#) can be undertaken in patients with large lesions and acute symptoms of [brain herniation](#) (good practice point).

In patients suspected of [primary central nervous system lymphoma](#) with a unifocal and resectable lesion, the panel did not establish consensus about whether to recommend surgical resection or the need for tissue [biopsy](#) ⁸⁾.

References

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