

[Future Oncol.](#) 2024 Jun 11:1-9. doi: 10.1080/14796694.2024.2358743. Online ahead of print.

## Second surgery for relapsed glioblastoma: an observational study on criteria for patient selection in real life

Mario Lecce <sup>1</sup>, Fabrizio Rasile <sup>1</sup>, Antonio Tanzilli <sup>2</sup>, Paola Gaviani <sup>3</sup>, Carosi Mariantonia <sup>4</sup>, Veronica Villani <sup>2</sup>, Andrea Pace <sup>2</sup>, Irene Terrenato <sup>5</sup>, Beatrice Casini <sup>4</sup>, Mariangela Novello <sup>4</sup>, Stefano Telera <sup>1</sup>

Affiliations

PMID: 38861296 DOI: [10.1080/14796694.2024.2358743](https://doi.org/10.1080/14796694.2024.2358743)

### Abstract

**Aim:** There is little consensus on salvage management of glioblastoma after recurrence, for lack of evidence. **Materials & methods:** A retrospective study of treatments in patients with recurrent glioblastoma. **Results:** Surgery at recurrence was related to better overall survival (OS) and progression-free survival (PFS). Surgery at recurrence, Karnofsky index, *MGMT* methylation status, younger age at diagnosis and number of chemotherapy cycles were positive factors for OS and PFS. The benefit of OS was relevant for a second surgery performed at least 9 months after the first one. Systemic treatments after the second surgery were linked to an improved PFS. **Conclusion:** Younger age, Karnofsky index, *MGMT* methylation status and a median time between surgeries  $\geq 9$  months may be criteria for eligibility for surgery at recurrence.

**Keywords:** Age; Karnofsky index; *MGMT* methylation status; glioblastoma; prognostic criteria; recurrence; recurrence delay; second surgery; survival.

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