

## ABSTRACT

Neurol Sci. 2022 May 31. doi: 10.1007/s10072-022-06172-y. Online ahead of print.

Recurrent glioblastoma: which treatment? A real-world study from the Neuro-oncology Unit "Regina Elena" National Cancer Institute.

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**BACKGROUND:** The majority of patients with glioblastoma (GBM) experience disease progression. At recurrence, treatment options have limited efficacy. Many studies report a limited and short duration response rate. Although clinical trials represent the "gold standard" for providing evidence on efficacy of specific treatment strategies, real-world data can be considered more representative of the "real" GBM population.

**OBJECTIVE:** To describe the management of GBM recurrence in a large real-world sample.

**METHODS:** We analysed retrospectively the data stored in the database of the Neuro-oncology Unit, IRCCS "Regina Elena" National Cancer Institute, Rome, Italy. We considered only data of patients with histological diagnosis of GBM and disease recurrence during their follow-up. We excluded patients who did not receive treatment after the diagnosis.

**RESULTS:** We analysed 422 patients (64% males, 36% females) with a mean age of 59.6 (range 16-87) years. At GBM recurrence, 135 (32.0%) patients underwent palliative care, and 287 (68.0%) underwent other treatments. Patients on palliative care were older, had a worse performance status, and a shorter time between GBM diagnosis and its recurrence. Patients who received chemotherapy in combination with other treatments (surgery and/or radiation therapy) at GBM recurrence had a longer survival than those in palliative care ( $p < 0.001$ ). Surgery or radiation therapy alone did not have any effect on survival as compared with palliative care ( $p < 0.001$ ).

**CONCLUSION:** This study confirms the importance of a multidisciplinary approach even at GBM recurrence, suggesting that combination treatments play a key role in management of disease.

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DOI: 10.1007/s10072-022-06172-y

PMID: 35641731