

## ABSTRACT

Brain Nerve. 2022 May 1;74(5):668-676. doi: 10.11477/mf.1416202095.

[Glioblastoma That Does Not Improve with Standard Treatment: Poor Prognostic Factors and Future Perspectives].

[Article in Japanese]

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The 5-year survival of glioblastoma (GBM) is at approximately 15%, and prognostic factors of GBM are age, Karnofsky performance status (KPS), extent of resection, and MGMT promoter methylation status. The reasons for the poor prognosis of GBM are as follows: 1)median age of onset of GBM is 68 years; 2)half of the patients have  $KPS \leq 70$ ; 3)rapid growth of the tumor; 4)half of the patients undergo total resection; and 5)available drugs are only temozolomide and bevacizumab. The comprehensive genome profiling test is performed to analyze exome gene mutations, amplifications, deletions, and fusion gene expression in tumor tissues with a next-generation sequencer to identify tumor-specific driver genes. This test has been covered by public medical insurance for patients with cancer, including malignant brain tumors, in Japan since 2019. It detects the driver genes of GBM, such as BRAF and FGFR gene mutations, leading to clinical application by those inhibitors.

DOI: 10.11477/mf.1416202095

PMID: 35589662 [Indexed for MEDLINE]