

## PubMed

U.S. National Library of Medicine  
National Institutes of Health



Display Settings:  Abstract

[Oncol Rep.](#) 2010 Jun;23(6):1655-62.

# Prognostic value of MGMT promoter methylation in glioblastoma patients treated with temozolomide-based chemoradiation: a Portuguese multicentre study.

Costa BM, Caeiro C, Guimarães I, Martinho O, Jaraquemada T, Augusto I, Castro L, Osório L, Linhares P, Honavar M, Resende M, Braga F, Silva A, Pardal F, Amorim J, Nabiço R, Almeida R, Alegria C, Pires M, Pinheiro C, Carvalho E, Lopes JM, Costa P, Damasceno M, Reis RM.

Life and Health Sciences Research Institute (ICVS), Health Sciences School, University of Minho, Braga, Portugal.

### Abstract

Glioblastoma (GBM) is the most common and aggressive primary brain tumor. The identification of novel molecular prognostic markers of GBM has recently been an area of great interest in neuro-oncology. The methylation status of the MGMT gene promoter is currently a promising molecular prognostic marker, but some controversial data have precluded its clinical use. We analyzed MGMT methylation by methylation-specific PCR in 90 GBM patients from four Portuguese hospitals, uniformly treated with radiotherapy combined with concomitant and adjuvant temozolomide (Stupp protocol). The Kaplan-Meier method was used to construct survival curves, and the log-rank test and a Cox-regression model were used to analyze patient survival. The methylation status of MGMT was successfully determined in 89% (80/90) of the tumors. The frequency of tumoral MGMT promoter methylation was 47.5%. The median overall survivals (OSs) were 16 months (95% CI 12.2-19.8) and 13 months (95% CI 13.3-18.7) for patients whose tumors had a methylated or unmethylated MGMT, respectively. Univariate and multivariate analyses did not show any statistically significant association between MGMT methylation status and patient OS ( $P=0.583$  by the log-rank test;  $P=0.617$  by the Cox-regression test) or progression-free survival ( $P=0.775$  by the log-rank test;  $P=0.691$  by the Cox-regression test). None of the patient clinical features were significantly correlated with survival. This is the first study to report the frequency of MGMT methylation among Portuguese GBM patients. Our data did not show statistically significant associations between MGMT promoter methylation and the outcome of GBM patients treated with temozolomide. Additional robust prospective studies are warranted to clarify whether the MGMT status should be used in clinical decisions.

PMID: 20428822 [PubMed - in process]

Publication Types

[LinkOut](#) - more resources

You are here: [NCBI](#) > [Literature](#) > [PubMed](#)

[Write to the Help Desk](#)