

Glioblastoma treatment research

Glioblastoma is one of the most active areas of **research**. Significant efforts are being made to look beyond basic morphology.

The retrospective analysis of the **AVAglio trial** reported 4.3 months incremental survival in the **proneural glioblastoma** subgroup ¹⁾.

Hence, patient selection and personalization of treatment should be done with more appropriateness in future. However, the complexity of performing these molecular assays in the lab appears to be labor and cost intensive and may limit routine use. In this context, a simplified model incorporating **MGMT methylation**, human telomerase (TERT) methylation, and IDH mutation may be formulated to dictate the optimum treatment. Treatment personalization may further be refined with the incorporation of these molecular factors along with patient factors like age, performance status, etc., (molecular-clinical profiling). A Large number of newer drugs and virus based therapy are being evaluated in different phase III and phase II trials as well.

The **subventricular zone** (SVZ) forms the lining the lateral ventricles and represents the origin of neural and some cancer stem cells. Gupta et al. reported on dose volume parameters of SVZ in 40 patients of adult Glioblastoma. Dose to the ipsilateral SVZ dose was found to be an independent predictor of survival in multivariate analysis in this study. Although a novel finding, this requires further validation in a prospective study ²⁾.

Citalopram with standard RT and **Temozolomide** TMZ

RT alone versus RT and TMZ for elderly

CCNU/TMZ combination therapy versus standard TMZ (MGMT-methylated cases)

Standard RT plus concomitant and adjuvant OSAG 101 (Theraloc°) plusTMZ versus standard RT plus concomitant and adjuvant TMZ

Rindopepimut/GM-CSF with adjuvantTMZ in EGFRvIII-positive Glioblastoma CDX110-04

DCVax-L, autologous dendritic cells pulsed with tumor lysate antigen 020221

Adjuvant TMZ with or without interferon-alfa NCT 01765088

Adjuvant RT and temozolomide with or without Velipari b NCT 02152982

CCNU - Lomustine; TMZ -Temozolomide; MGMT - O'-methylguanine—DNA methyltransferase; Glioblastoma - Glioblastoma multiforme; RT - Radiotherapy,-

GM-CSF -Granulocyte-monocyte colony stimulating factor,- EGFRvIII - Epidermal growth factor receptor variant III.

¹⁾

Sandmann T, Bourgon R, Garcia J, Li C, Cloughesy T, Chinot OL, et al. Patients with proneural glioblastoma may derive overall survival benefit from the addition of bevacizumab to first line

radiotherapy and temozolomide: Retrospective analysis of the AV Aglio trial. J Clin Oncol. 2015;pii-JCO.2015.61.5005. Epub ahead of print.

2)

Mallick S, Gandhi AK, Rath GK. Therapeutic approach beyond conventional temozolomide for newly diagnosed glioblastoma: Review of the present evidence and future direction. Indian J Med Paediatr Oncol. 2015 Oct-Dec;36(4):229-37. doi: 10.4103/0971-5851.171543. Review. PubMed PMID: 26811592; PubMed Central PMCID: PMC4711221.

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