

Letter to the Editor

Glioblastoma in adults: a Society for Neuro-Oncology (SNO) and European Society of Neuro-Oncology (EANO) consensus review on current management and future directions

We have read with great interest the manuscript written by Wen et al. entitled “Glioblastoma in adults: a Society for Neuro-Oncology (SNO) and European Society of Neuro-Oncology (EANO) consensus review on current management and future directions.”¹ We congratulate the authors since the article summarizes the current status of the treatment of glioblastoma, specially the aspects related to de novo and adjuvant management.

Nevertheless, we think that the information concerning the role of surgery in recurrent glioblastoma has been dramatically undervalued and the affirmations about its usefulness may be misunderstood.

The article explains, in detail, many of the therapeutic alternatives for the treatment of recurrent glioblastoma as Bevacizumab, Nitrosoureas, Rechallenging Temozolomide, Re-irradiation, or Immunotherapy. In spite of this, the majority of them have not shown any significant improvement in survival or quality of life. We regret that the role of salvage surgery, as opposed to these other tools, has been very briefly discussed in the nonspecific heading “Recurrent glioblastoma.”

Next, we summarize some of the most relevant aspects related to the role of salvage surgery.

Current publications established that an appreciable proportion of patients with recurrent high-grade glioma, about 10%–30%, may be eligible for salvage surgery.² Many articles including meta-analysis have shown its benefit in terms of longer survival in selected patients.^{2–5}

We agree with the authors that the maximal benefit of salvage surgery is related to complete resection, but this may only be known a posteriori. So, the decision to operate or not to operate a recurrent glioblastoma may not be based on a posteriori measurement, but on the possibility of obtaining a gross total resection (GTR) >95% of the MRI T1-enhanced

region.³ Careful radiological analysis of this aspect by an experienced oncological neurosurgeon will be essential.

The development of intraoperative neurophysiological monitoring and awake craniotomy may allow a safe GTR of recurrent gliomas extended to eloquent areas. The 5-aminolevulinic acid (5-ALA) fluorescence-guided surgery has an important role in recurrent glioma because it may help to differentiate tumor extension after former surgery and radiotherapy.⁵

Apart from anatomical aspects, clinical criteria as Karnofsky performance status >70 and an interval superior to 6 months between diagnosis and posttreatment progression are critical to establish the indication of salvage surgery.⁵

New neurological focal deficit or refractory epilepsy secondary to local progression of glioblastoma may be also indications of salvage surgery.

We strongly believe that anatomical and radiological criteria of resectability and clinical aspects need to be individually discussed in the multidisciplinary Neuro-Oncology Committee, in order to decide the best management for each patient.⁵ The neurosurgeon should be also involved in clinical and radiological follow-up of the patient every 3 months.⁵

Pathological analysis of the recurrent tumor may provide very useful information about treatment response, identification of prognostic biomarkers, and immunological features of glioblastoma microenvironment that could be critical for further therapies.

Special consideration must be taken before introducing Bevacizumab for the treatment of glioblastoma progression. Apart from hemorrhagic and thrombotic events, Bevacizumab will represent a contraindication for salvage surgery. Its residual effects in vessel formation may last more than 4 weeks. This time may be critical in case we consider a treatment switch to surgery. Although this period would be respected, the risk of wound infection and cerebrospinal fluid fistula would be increased in any case after Bevacizumab treatment.⁴ So, careful must be taken before the introduction of Bevacizumab treatment in glioblastoma recurrences amenable to salvage surgery.

Glioblastoma is an extremely challenging disease. There is a consensus on the treatment of newly diagnosed glioblastomas, but unfortunately agreement on the management of recurrences is lacking. As previous investigations have shown salvage surgery may improve the survival of recurrent glioblastoma. So, we strongly believe that its rationale, indication, and results should have been more carefully analyzed in this article.

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References

1. Wen PY, Weller M, Lee EQ, et al. Glioblastoma in adults: a Society for Neuro-Oncology (SNO) and European Society of Neuro-Oncology (EANO) consensus review on current management and future directions. *Neuro Oncol.* 2020;22(8):1073–1113.
2. Chaichana KL, Zadnik P, Weingart JD, et al. Multiple resections for patients with glioblastoma: prolonging survival. *J Neurosurg.* 2013;118:812–820.
3. Bloch O, Han SJ, Cha S, et al. Impact of extent of resection for recurrent glioblastoma on overall survival. *J Neurosurg.* 2012;117:1032–1038.
4. Hervey-Jumper SL, Berger MS. Reoperation for recurrent high-grade glioma: a current perspective of the literature. *Neurosurgery.* 2014;75(5):491–499.
5. Vargas López AJ, Fernández Carballal C, Valera Melé M, Rodríguez-Boto G. Survival analysis in high-grade glioma: the role of salvage surgery. *Neurologia.* 2020;Jul 21:S0213-4853(20)30125-0.