

Advances in Radiation Oncology
Radiation for Glioblastoma in the Era of COVID-19
--Manuscript Draft--

Manuscript Number:	ADVANCESRADONC-D-20-00193R1
Article Type:	Letter to the Editor
Section/Category:	COVID-19
Corresponding Author:	Shrinivas Rathod, FRCPC University of Manitoba/CancerCare Manitoba Winnipeg, Manitoba CANADA
First Author:	Shrinivas Rathod, FRCPC
Order of Authors:	Shrinivas Rathod, FRCPC Saranya Kakamanu, FRCPC Rashmi Koul, FRCPC
Abstract:	We read the article "Radiation for Glioblastoma in the Era of COVID-19: Patient Selection and Hypofractionation to Maximize Benefit and Minimize Risk" with great interest. We suggest caution interpretation of recommendations for very poor PS (KPS<50) subset.

Radiation for Glioblastoma in the Era of COVID-19

Shrinivas Rathod FRCPC*#, Saranya Kakamanu FRCPC*#, Rashmi Koul FRCPC*#.

* Radiation Oncology, CancerCare Manitoba and Department of Radiology, University of Manitoba, Winnipeg, Manitoba, Canada

Disclosures: Authors report no conflict of interest relative to this work

Letter: 326 words

Corresponding author:

Dr. Shrinivas Rathod FRCPC

Radiation Oncologist, CancerCare Manitoba

Assistant Professor, University of Manitoba

ON3256, 675 McDermot Ave, Winnipeg, Mb, Canada R3E0V9

Telephone: (204) 787-4760

Fax: (204) 786-0194

Email: srathod@cancercare.mb.ca

We read the article “Radiation for Glioblastoma in the Era of COVID-19: Patient Selection and Hypofractionation to Maximize Benefit and Minimize Risk” with great interest.¹ We congratulate authors for drafting guidance for selecting glioblastoma who would benefit from hypofractionated radiation (RT) in the era of COVID-19.

The authors suggested elderly glioblastoma (aged ≥ 65 years) should strongly be considered for hypofractionated RT regimens, 40 Gray (Gy)/ 15 fractions (Fr).² For patients with very poor PS (KPS <50 i.e. ECOG 3-4), palliative regimens authors recommended of either 34 Gy /10 fractions, 25 Gy /5 fr or TMZ with the omission of RT and suggested each supported by prospective trial data.³⁻⁵

We suggest a cautious interpretation of recommendations for a very poor PS (KPS <50) subset. We want to highlight these referenced landmark studies did not represent patients with very poor PS. The IAEA trial included patients of age 50 years and KPS of 50- 70; elderly and frail age 65 years and KPS of 50-70; elderly age 65 years and KPS of 80-100. With a median OS of 7.9 months with 25Gy/5Fr compared to median OS of 6.4 months with hypofractionated RT 40Gy/15Fr there was no survival difference.³

Similarly, Nordic trial studied patients of age 60 years and above with WHO performance scores 0–2 (even if neurological deficits gave them a performance score of 3).⁴ Importantly, 78% of patients in this study had ECOG of 0-1. Although temozolomide alone is an appropriate option in individuals over 60 with ECOG 0-2, its use in the current pandemic requires careful attention.¹¹

The temozolomide alone had a higher risk of neutropenia (12%), thrombocytopenia (21%) and infection (19%).¹¹ In the current scenario, as temozolomide induced immunosuppression could increase the risk of contracting COVID-19. Thus recommendation of its use in patients with poor PS (KPS <50) deserves extreme caution.⁴

We recommend best supportive care or an ultra-short course IAEA regimen may serve as a better option for poor PS patients, in the current COVID-19 times.

References:

[1] Noticewala S, Ludmir E, Bishop A, et al. Radiation for Glioblastoma in the Era of COVID-19: Patient Selection and Hypofractionation to Maximize Benefit and Minimize Risk. *Advances in Radiation Oncology*. Accepted.

[https://www.astro.org/ASTRO/media/ASTRO/Daily%20Practice/PDFs/COVID-Noticewala-et-al-2\(ADRO\).pdf](https://www.astro.org/ASTRO/media/ASTRO/Daily%20Practice/PDFs/COVID-Noticewala-et-al-2(ADRO).pdf)

[2] Perry JR, Laperriere N, O'Callaghan CJ, et al. Short-Course Radiation plus Temozolomide in Elderly Patients with Glioblastoma. *N Engl J Med*. 2017;376(11):1027-1037. doi:10.1056/NEJMoa1611977

[3] Roa W, Kepka L, Kumar N, et al. International Atomic Energy Agency Randomized Phase III Study of Radiation Therapy in Elderly and/or Frail Patients With Newly Diagnosed Glioblastoma Multiforme. *J Clin Oncol*. 2015;33(35):4145-4150. doi:10.1200/JCO.2015.62.6606

[4] Malmström A, Grønberg BH, Marosi C, et al. Temozolomide versus standard 6-week radiotherapy versus hypofractionated radiotherapy in patients older than 60 years with glioblastoma: The Nordic randomised, phase 3 trial. *Lancet Oncol.* 2012;13(9):916-926. doi:10.1016/S1470-2045(12)70265-6

[5] <https://oncologypro.esmo.org/oncology-in-practice/practice-tools/performance-scales>