Comment on: Glioblastoma multiforme outcomes of 107 patients treated in two local institutions

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Dear Sir,

In their article, Cheo et al[1] provided an enlightening summary of classical therapy for glioblastoma multiforme (GBM), focusing on the experience in Singapore. The paper shows that despite past efforts, there appears to be limited potential for improvements in classical therapy, beyond marginally extending survival time for patients. What the authors do not mention, however, is the potential effectiveness of employing viral, immunological and molecular treatment modalities.[2,3]

Oncolytic viruses have recently shown great promise in the treatment of GBM,[3,4] an important finding for such cancers that have little or no potential for survival. Apart from GBM, there are other cancers such as melanoma that also do not benefit from classical treatments.[4] Innovative therapies employing oncolytic, immunological or molecular properties do not represent a 'magic bullet' and require specific characteristics when targeting certain cancers. There remain problems with tropism, unique cell properties and strategies to maximise the optimal efficiency for the treatment. Specifically, the application of a modified polio virus has been shown to be effective in the treatment of GBM, with cases of possible remission.[2,4] This viral treatment appears to involve actions specific to this type of tumour and recruitment of the host immunological system.

Much of the development of these novel viral, immunological or molecular therapies arose through the basic sciences, in particular through the understanding of fundamental molecular biology.[2,4] Hence, it might be better to approach treatment of GBM with a biological mechanism in the future, rather than applying traditional modalities (e.g. chemotherapy, radiation or surgery).[5] Oncology practices should begin to embrace, understand and apply these novel therapies, although many are experimental. This would not only allow longer survival, but also the possibility of complete remission from conditions that previously were almost certain death sentences.

Yours sincerely,

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References

1. Cheo ST, Lim GH, Lim KH. Glioblastoma multiforme outcomes of 107 patients treated in two local institutions. Singapore Med J 2017; 58:41-5.
2. Goetz C, Dobrikova E, Shveygert M, Dobrikov M, Gromeier M. Oncolytic poliovirus against malignant glioma. Future Virol 2011; 6:1045-58.
3. Hulou MM, Cho CF, Chiocca EA, Bjerkvig R. Experimental therapies: gene therapies and oncolytic viruses. In: Berger MS, Weller M, eds. Handbook of Clinical Neurology Volume 134. Elsevier, 2016; 183-197.
4. Brown MC, Dobrikova EY, Dobrikov MI, et al. Oncolytic polio virotherapy of cancer. Cancer 2014; 120:3277-86.
5. Buijs PR, Verhagen JH, van Eijck CH, van den Hoogen BG. Oncolytic viruses: From bench to bedside with a focus on safety. Hum Vaccin Immunother. 2015; 11:1573-84.