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Reply to Letter to the Editor

Response to Letter by Walker et al

We thank Drs Walker, Azizi, and coauthors for their thoughtful discussion highlighting the importance of functional testing in the consideration of therapy for children with low-grade gliomas (LGGs).

It is important to note that the goal of this debate was to critically review the current literature surrounding the two treatment modalities (chemotherapy vs targeted therapy) in a patient with clinical and radiographic progression of an optic pathway glioma, in the era of genomic medicine.[1] Although we fully support observant management as an important modality of management for most children with LGGs, it was out of the scope of this debate.

Walker et al elegantly point out the significance of the degree of vision loss as a key factor in determining treatment options. In general, we strongly agree that a comprehensive evaluation and discussion of the risk-vs-benefit ratio is critical when determining the need and type of treatment in a child with LGG. This is especially important considering the excellent long-term overall survival of this patient population.[2] We acknowledge that our debate could have been more robust in integrating functional aspects in the discussion; however, this was not the focus.[1]

In a developing young child with an optic pathway glioma, however, one could argue that there is no "safe" level/pattern of vision loss. The chronic, progressive, and recurrent nature of midline LGGs makes it almost impossible to predict the disease course and trend in vision loss.[3] More important, it is well established that even mild visual impairment can have a substantial impact on future quality-of-life and health outcomes.[4,5] We would therefore contend that any change in visual acuity/visual field in a young child with an optic pathway glioma could be an indication for treatment initiation, especially when associated with radiographic progression and the well-known limitations of visual acuity assessments in a young child.

The authors raise several key challenges in the treatment of pediatric LGG, including variability of visual assessment tools and lack of standardization in the timing of treatment initiation. Similar to efforts by the European Research Workshop, several initiatives are currently under way to standardize these metrics. For example, the RAPNO (Response Assessment in Pediatric Neuro-Oncology) working group is finalizing its recommendation for LGGs, which will include visual assessment as part of the criteria for response evaluation. In general, Children's Oncology Group, RAPNO, and REiNS (Response Evaluation in Neurofibromatosis & Schwannomatosis) all recommend Teller Acuity Cards and HOTV to be standard for assessment of visual acuity, dependent on age.[6,7] Although there is no universally accepted degree of visual loss necessary to start therapy, most experts agree that worsening of 0.2 or more logarithm of the minimum angle of resolution would be considered progressive loss and a reason to initiate treatment.

In summary, we agree that clinical symptomatology, comprehensive functional testing, and radiographic finding are all critical in the therapeutic decision making in children with LGGs. Standardization of functional assessments will be key in furthering our understanding of our therapeutic impact. Ongoing clinical trials will be crucial in determining the efficacy of targeted drugs vs conventional chemotherapy on functional outcome.

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