

ABSTRACT

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Metronomic Maintenance With Weekly Vinblastine After Induction With Bevacizumab-Irinotecan in Children With Low-grade Glioma Prevents Early Relapse.

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BACKGROUND: Pediatric low-grade glioma (pLGG) represents the most common brain tumor in childhood. Previous studies have reported that a therapeutic strategy on the basis of the association of bevacizumab alone (B) or in combination with irinotecan (BI) could produce rapid tumor response and clinical improvement in children with pLGG. Nevertheless, a majority of patients relapses shortly (median, 5 mo) after stopping B or BI treatment. We proposed metronomic maintenance with weekly vinblastine added after a 6 months induction of B/BI to prevent early relapse.

PATIENTS AND METHODS: Monocentric retrospective analysis of a patient with pLGG treated with B or BI for 6 months followed by a 12-month maintenance with weekly vinblastine (6 mg/m²) from October 2012 to September 2019 in a single institution.

RESULTS: In total, 18 patients (7 males and 11 females) were identified. Because of progression during the B or BI induction 2/18 children were excluded. In total, 16 patients were analyzed with a median age of 10 years (range, 4 to 16 y). A total of 13 patients received BI and 3 patients received B alone. The mean duration of induction was 6.2 months (range, 2 to 12 mo). After induction 5/16 patients had a partial radiologic response, 11/16 patients had stable disease. All patients started maintenance (median duration, 12 mo; range, 3 to 12 mo). With a median follow-up of 3.9 years after the end of B or BI (range, 11 mo to 7.2 y), 15/16 patients were alive and 9/16 patients were progression-free. Seven of 16 children progressed with a median time to progression of 23 months (ranges, 5 to 39 mo). Three of 16 (18%) children progressed during vinblastine maintenance and 4/16 (25%) patients after the end of maintenance. After the total duration of treatment, clinical improvement was noted in 4 patients, 9 patients had stable symptoms, and only 3 patients progressed. One and 2-year event-free survival were, respectively, 81.2% and 56.2%. Two-year overall survival was 93.7%.

CONCLUSIONS: We report here, the potential benefit and the improvement of progression-free survival by adding metronomic maintenance with weekly vinblastine after initial induction with B or BI in children with low-grade glioma.

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