ABSTRACT

J Pediatr Hematol Oncol. 2022 Apr 13. doi: 10.1097/MPH.0000000000002462. Online ahead of print.

Single-agent Bevacizumab in the Treatment of Symptomatic Newly Diagnosed and Recurrent/Refractory Pediatric Cervicomedullary Brainstem Low-grade Gliomas: A Single Institutional Experience.

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Bevacizumab-based therapies have been utilized as single or combination therapy of refractory/recurrent pediatric low-grade gliomas. Its efficacy for symptomatic cervicomedullary low-grade gliomas (cmLGGs) in the upfront and the recurrent setting is less known. We report our retrospective single institutional experience from 2015 to 2021 with single-agent bevacizumab for symptomatic cmLGG. Six consecutive patients (4 female, ages 2 to 12 y) with newly diagnosed (n=3) and recurrent/refractory (n=3) symptomatic nondisseminated cmLGG (5/6 biopsy-proven, 2 BRAFV600E, 2 BRAF-KIAA1549) were treated with single-agent bevacizumab. All demonstrated radiographic response most pronounced on post-gadolinium T1-weighted magnetic resonance imaging (2 complete, 4 partial) at a median of 8 weeks (range: 2 to 12 wk). Clinical response was seen in all patients with improvement in cranial nerve abnormalities (3 recurrent/refractory, 1 newly diagnosed), strength (2 recurrent/refractory, 2 newly diagnosed), pain (2 recurrent/refractory), and anorexia (1 newly diagnosed). Four patients (2 recurrent/refractory, 2 newly diagnosed) experienced disease progression on subsequent adjunct therapies, 2 of which (the 2 newly diagnosed patients) are currently being rechallenged. At a mean follow-up of 7 months, all patients are clinically stable without disease progression. Single-agent bevacizumab may be effective in the management of symptomatic newly diagnosed and recurrent/refractory cmLGG and warrants further evaluation in a clinical trial setting.

DOI: 10.1097/MPH.0000000000002462
PMID: 35426868

Conflict of interest statement: The authors declare no conflict of interest.