

ABSTRACT

J Neurooncol. 2022 Mar 3. doi: 10.1007/s11060-022-03970-4. Online ahead of print.

The role of irinotecan-bevacizumab as rescue regimen in children with low-grade gliomas: a retrospective nationwide study in 72 patients.

de Marcellus C(1)(2), Tauziède-Espariat A(3), Cuinet A(4), Pasqualini C(4), Robert MP(5)(6), Beccaria K(7), Puget S(7), Boddaert N(8)(9), Figarella-Branger D(10), De Carli E(11), Bourdeaut F(12), Leblond P(13), Fouyssac F(14), Andre N(15), Bertozzi AI(16), Butel T(4), Dufour C(4), Valteau-Couanet D(4), Varlet P(3), Grill J(4)(17).

Author information:

(1)Department of Pediatric and Adolescent Oncology, Institut Gustave Roussy, University Paris-Saclay, Villejuif, France. charles.de-marcellus@aphp.fr.

(2)Pediatric Intensive Care Unit, Necker-Enfants Malades University Hospital Assistance Publique-Hôpitaux de Paris, Université de Paris, Paris, France. charles.de-marcellus@aphp.fr.

(3)Department of Neuropathology, GHU Psychiatrie et Neurosciences, site Sainte-Anne, Paris, France.

(4)Department of Pediatric and Adolescent Oncology, Institut Gustave Roussy, University Paris-Saclay, Villejuif, France.

(5)Department of Ophthalmology, Necker-Enfants Malades University Hospital, Assistance Publique-Hôpitaux de Paris, University Paris Descartes, Paris, France.

(6)Borelli Centre UMR 9010, CNRS-SSA-ENS Paris Saclay-Paris University, Paris, France.

(7)Department of Pediatric Neurosurgery, Necker-Enfants Malades University Hospital, Assistance Publique- Hôpitaux de Paris, Paris, France.

(8)Paediatric Radiology Department, AP-HP, Hôpital Necker Enfants Malades, Université de Paris, 75015, Paris, France.

(9)Université de Paris, Institut Imagine INSERM U1163, 75015, Paris, France.

(10)APHM, CHU Timone, Department of Pathology and Neuropathology and Aix-Marseille Univ, CNRS, INP Inst Neurophysiopathol, Marseille, France.

(11)Department of Pediatric Oncology, Angers University Hospital, Angers, France.

(12)SIREDO Center (Pediatric, Adolescent and Young Adults Oncology), Institut Curie, University of Paris, Paris, France.

(13)Pediatric Oncology Unit, Oscar Lambret Comprehensive Cancer Center, Lille, France.

(14)Department of Pediatric Hematology, Nancy University Hospital, Vandoeuvre-les-Nancy, France.

(15)Department of Pediatric Hematology and Oncology, Aix Marseille University, Assistance Publique-Hôpitaux de Marseille, Marseille, France.

(16)Department of Hematology-Oncology, Children University Hospital, Toulouse, France.

(17)CNRS Unit 8203, Gustave Roussy, University Paris-Saclay, Villejuif, France.

INTRODUCTION: At least half of children with low-grade glioma (LGG) treated with first line chemotherapy experience a relapse/progression and may therefore need a second-line chemotherapy. Irinotecan-bevacizumab has been recommended in this setting in France after encouraging results of pilot studies. We performed a retrospective analysis to define the efficacy, toxicity and predictors for response to the combination on a larger cohort.

METHODS: We reviewed the files from children < 19 years of age with progressive or refractory LGG treated between 2009 and 2016 in 7 French centers with this combination.

RESULTS: 72 patients (median age 7.8 years [range 1-19]) received a median of 16 courses (range 3-30). The median duration of treatment was 9 months (range

1.4-16.2). 96% of patients experienced at least disease stabilization. The 6-month and 2-year progression-free survivals (PFS) were 91.7% [IC 95% 85.5-98.3] and 38.2% [IC 95% 28.2-51.8] respectively. No progression occurred after treatment in 18 patients with a median follow-up of 35.6 months (range 7.6-75.9 months). Younger patients had a worse PFS ($p = 0.005$). Prior chemoresistance, NF1 status, duration of treatment, histopathology or radiologic response did not predict response. The most frequent toxicities related to bevacizumab included grades 1-2 proteinuria in 21, epistaxis in 10, fatigue in 12 and hypertension in 8 while gastro-intestinal toxicity was the most frequent side effect related to irinotecan.

CONCLUSIONS: Bevacizumab-irinotecan has the potential of disease control clinically and radiographically in children with recurrent LGG whatever their previous characteristics; in many cases however these responses are not sustained, especially in younger children.

© 2022. The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.

DOI: 10.1007/s11060-022-03970-4
PMID: 35239111