

[Int Cancer Conf J](#). 2024 Apr 10;13(3):256-262. doi: 10.1007/s13691-024-00674-6.
eCollection 2024 Jul.

Successful treatment of pediatric patients with high-grade gliomas featuring leptomeningeal metastases by targeting BRAF V600E mutations with dabrafenib plus trametinib: two illustrative cases

Yuki Kawaguchi ¹, Yuko Watanabe ², Yasuji Miyakita ¹, Makoto Ohno ¹, Chitose Ogawa ², Masamichi Takahashi ¹, Shunsuke Yanagisawa ¹, Takayuki Mukai ¹, Hiroshi Igaki ³, Hirokazu Sugino ⁴, Akihiko Yoshida ⁴, Yoshitaka Narita ¹

Affiliations

PMID: 38962052 PMID: PMC11217217 (available on 2025-04-10)

DOI: [10.1007/s13691-024-00674-6](https://doi.org/10.1007/s13691-024-00674-6)

Abstract

A combination of BRAF and MEK inhibitors is reported to be effective for gliomas with the BRAF V600E mutation; however, its efficacy in gliomas with leptomeningeal metastases (LMM) is still unknown. In this report, we describe two pediatric patients with high-grade glioma featuring the BRAF V600E mutation who were treated with dabrafenib and trametinib for LMM. Both 2 cases underwent craniotomy for primary intracranial lesions and were diagnosed as a high-grade glioma with BRAF V600E mutation; one case was consistent with anaplastic pleomorphic xanthoastrocytoma, the other was epithelioid glioblastoma. They received standard treatment for the lesions but subsequently were found to have new lesions including multiple spinal dissemination. We started administering dabrafenib and trametinib. Within a few days of starting treatment, the symptoms improved dramatically and MRI performed one month after the prescription of the two drugs demonstrated remission of both brain and spinal lesions. This report shows that dabrafenib and trametinib are effective not only for recurrent lesions but also for LMM in pediatric patients.

Keywords: BRAFV600E; Dabrafenib; Epithelioid glioblastoma; Pleomorphic xanthoastrocytoma; Trametinib.

© The Author(s) under exclusive licence to The Japan Society of Clinical Oncology 2024. Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.

[PubMed Disclaimer](#)