

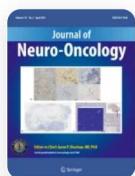
Bevacizumab combined with irinotecan or temozolomide in recurrent glioblastoma: a Turkish Oncology Group (TOG) study

Case Study Published: 05 January 2026

Volume 176, article number 152, (2026) [Cite this article](#)

[Save article](#)

[View saved research](#)



[Journal of Neuro-Oncology](#)

[Aims and scope](#)

[Submit manuscript](#)

Sinem Akbas Ozkan Alan, Oguzhan Yildiz, Melek Karakurt, Eda Caliskan Yildirim, Rumeysa Colak, Mesut Yilmaz, Abdussamet Celebi, Ozlem Er, Ozde Melisa Celayir, Mutianur Ozkorkmaz Akdag, Omer Sacli, Melike Ozcelik, Elif Sahin, Melek Ozdemir, Gamze Gokoz Dogu, Atakan Demir, Murat Gunaltili, Omer Faruk Elcicek, Teoman Sakalar, Berkan Karabuga, Fatih Yildiz, Eyyup Cavdar, Oguzcan Ozkan, ... Fatih Selcukbiricik ▼ Show authors

144 Accesses [Explore all metrics](#) →

Abstract

Purpose

Given the lack of an effective systemic therapy for recurrent glioblastoma, this study aims to compare response rates, progression-free survival, overall survival, and toxicity profiles of bevacizumab in combination with temozolomide (TMZ) versus irinotecan.

Methods

We retrospectively analyzed patients with recurrent glioblastoma from seventeen oncology centers in Türkiye who received bevacizumab combined with either TMZ or irinotecan after progression. Outcomes included response rates, progression-free survival (PFS), overall survival (OS), and adverse events assessed by CTCAE v4.0.

Results

Among 210 patients with recurrent glioblastoma, the median PFS was 7.9 months overall (5.2 months with TMZ–bevacizumab and 8.2 months with irinotecan–bevacizumab), and the median OS was 10.6 months overall (11.3 and 10.3 months, respectively). Six-month PFS and OS rates were 60% and 68% for the entire cohort, with no statistically significant differences between treatment regimens. Both combinations were generally well tolerated, with hypertension more frequent in the TMZ arm and liver enzyme elevation more common in the irinotecan arm.

Conclusion

In this multicenter cohort of patients with recurrent glioblastoma, bevacizumab combined with either temozolomide or irinotecan demonstrated comparable PFS and OS outcomes. Both regimens were generally well tolerated, suggesting that treatment choice may be guided by individual patient profiles and toxicity considerations rather than differences in efficacy.

 This is a preview of subscription content, [log in via an institution](#)  to check access.

Access this article

Log in via an institution

Subscribe and save

 Springer+

from €37.37 /Month

Starting from 10 chapters or articles per month

Access and download chapters and articles from more than 300k books and 2,500 journals

Cancel anytime

View plans 

Buy Now