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Efficacy and Safety of Carmustine Wafer Implantation After Ventricular Opening in Glioblastomas, Isocitrate Dehydrogenase-Wildtype, in Adults

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Abstract

Background and objectives: We assessed the impact of ventricular opening on postoperative complications and survival of carmustine wafer implantation during surgery of newly diagnosed supratentorial glioblastomas, isocitrate dehydrogenase (IDH)-wildtype in adults.

Methods: We performed an observational, retrospective, single-center cohort study at a tertiary surgical neuro-oncological center between January 2006 and December 2021.

Results: One hundred ninety-four patients who benefited from a first-line surgical resection with carmustine wafer implantation were included. Seventy patients (36.1%) had a ventricular opening. We showed that ventricular opening (1) did not increase overall postoperative complication rates (P = .201); (2) did not worsen the early postoperative Karnofsky Performance Status score (P = .068); (3) did not increase the time interval from surgery to adjuvant oncological treatment (P = .458); (4) did not affect the completion of the standard radiochemotherapy protocol (P = .164); (5) did not affect progression-free survival (P = .059); and (6) did not affect overall survival (P = .142).

Conclusion: In this study, ventricular opening during first-line surgical resection did not affect the survival and postoperative complications after use of carmustine wafer implantation in adult patients with a newly diagnosed supratentorial glioblastoma, IDH-wildtype. This warrants a prospective and multicentric study to clearly assess the impact of the ventricular opening after carmustine wafer implantation in glioblastoma, IDH-wildtype.