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Awake surgery for glioma resection during pregnancy: a systematic review

Jhon E Bocanegra-Becerra ¹, Sávio Batista ², Fernando Costa Vieitas ², Rafael Takahashi ², Leonardo de Barros Oliveira ³, Nicole M Castillo-Huerta ⁴, Alonso Ludeña-Esquivel ⁴, Raphael Bertani ⁵

Affiliations

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Abstract

Brain tumors are rarely present during pregnancy. However, they can severely impact the fetus and mother's well-being due to a complex interaction of disease and physiological factors. Moreover, awake surgery for gliomas has been scarcely reported during this life stage, and the nuances and techniques merit further investigation. Herein, we performed a systematic review of the literature about awake surgery for glioma resection during pregnancy. A total of six patients with a median age of 30.5 years (interquartile range: 40-27) were analyzed. Awake surgery was performed in the third trimester in 50% of patients (median time: 24.5 weeks) without reported intraoperative complications. Conscious sedation was achieved by remifentanyl and propofol infusion in 67% of cases, and intraoperative fetal heart monitoring was utilized in 83% of cases. Most studies revealed good clinical maternal-fetal outcomes at follow-up; however, long-term safety effects remain undetermined and warrant further research. In conclusion, awake surgery for glioma resection under a multidisciplinary approach can be a reasonable treatment option for select patients during pregnancy.

Keywords: Awake surgery; Conscious sedation; Glioma; Pregnancy.

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