

## ABSTRACT

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Management and treatment of brain tumors during pregnancy: an Italian survey.

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**PURPOSE:** The management of brain tumors during pregnancy is challenging. The clinical rarity and prognostic heterogeneity of such condition makes it difficult to develop standardized guidelines of treatment. The aim of this study was to assess the treatment options used in pregnant women with brain tumors that are currently used in Italy, considering the management of these patients reported in current literature in this field.

**METHODS:** A survey addressing the treatments options and management of brain tumors during pregnancy was designed on behalf of an ad-hoc task-force Neuro-Oncology committee of the Società Italiana di Neurochirurgia (SINch) to analyze the management of pregnant patients with brain tumors. We conducted a search of the literature published between January 2011 and September 2021, using MEDLINE (PubMed) in accordance to PRISMA guidelines. Data were discussed to obtain recommendations after evaluation of the selected articles and discussion among the experts.

**RESULTS:** A total of 18 Neurosurgical centers participated in the survey. A total of 31 pregnant women were included in this retrospective study. Meningiomas and gliomas were the two most common types of brain tumors diagnosed during pregnancy. An emergency surgical procedure was required in 12.9% of cases.

**CONCLUSION:** A multidisciplinary and tailored approach is fundamental. In women showing clinical stability, neurosurgical options should preferably be delayed if possible, and considered during the second trimester or after delivery. In patients with acute neurological symptoms or tumor progression, medical abortion in the first trimester or a C-section in the second and third trimester need to be considered.

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