

# Midbrain glioma

In the early 1990s, the role of surgery in midbrain [glioma](#) was well recognized.

## Classification

Most midbrain gliomas grow focally, which can be divided into tectum, tegmental, and [aqueduct gliomas](#), based on the original locations <sup>1)</sup>.

see also [Diffuse midline glioma H3 K27-altered](#)

see [Low grade midbrain glioma](#).

see [Pilocytic Midbrain Astrocytoma](#).

see [Tectal glioma](#).

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Focal gliomas involving the [midbrain tectum](#) and [tegmentum](#) have been identified as having a better prognosis than diffuse tumors affecting the [brainstem](#). However, only limited information is available concerning treatment effectiveness and long term outcome for these patients.

A retrospective, population-based cancer registry survey was performed to assess the clinical features and treatment courses of patients with focal [midbrain tumors](#).

Sixteen patients with midbrain gliomas were identified; eight had [tectal gliomas](#) and eight [tegmental gliomas](#). Thirteen patients presented with symptoms related to hydrocephalus, and 12 required a ventriculoperitoneal shunt. Seven patients underwent surgery directed at the tumor. Eight patients underwent initial radiation therapy and none had initial chemotherapy. One patient diagnosed at age 18 months had a rapidly growing tumor after 14 months of follow up which has responded to chemotherapy. The mean survival of this patient population was 84 months (range 3-280 months) after diagnosis, with only one tumor related death occurring (280 months after diagnosis). Survival was not affected by tumor location within the midbrain (tegmental or tectal) or by whether radiation therapy was or was not administered.

Patients with focal midbrain gliomas require symptom control aimed at treatment of hydrocephalus, or mass effect from the tumor. However the extended survival of this population suggests that routine aggressive surgical debulking is often not required. Furthermore, the routine use of radiation therapy or chemotherapy for all such patients is questioned <sup>2)</sup>.

<sup>1)</sup>

<https://cnjournal.biomedcentral.com/articles/10.1186/s41016-015-0006-3>

<sup>2)</sup>

Hamilton MG, Lauryssen C, Hagen N. Focal midbrain glioma: long term survival in a cohort of 16 patients and the implications for management. Can J Neurol Sci. 1996 Aug;23(3):204-7. PubMed PMID: 8862843.

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Last update: **2024/06/07 02:54**

