

ABSTRACT

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Leptomeningeal metastases and dural spread in adult high-grade astrocytomas.

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Leptomeningeal (LM) metastases or dural spread by adult high-grade astrocytomas are problematic; it is unclear which tumor types are predisposed to spread and at what time intervals from original diagnosis. We reviewed our recent experience with these tumor types with LM or dural spread, all of which had assessments that allowed CNS World Health Organization, 5th Edition classification. Following a database search, 2018-present, 10 patients were identified: 4 glioblastomas, IDH-wildtype, WHO grade 4; 4 astrocytomas, IDH-mutant, WHO grade 4; 1 high-grade astrocytoma with piloid features (HGAP) proven by DNA methylation, and 1 high-grade astrocytic tumor that fell closest to the HGAP category by DNA methylation. Most had LM dissemination; 2 had dural spread. Intervals from initial tumor diagnosis to LM spread for 4 astrocytomas, IDH-mutant were 1, 6, 7, and 14 years. Two glioblastomas, IDH-wildtype had dural spread at the time of diagnosis; 1 had a 6-year interval to metastasis; and 1 had a 3-month interval to LM spread. The definite HGAP showed an interval of 7 years to metastasis and the possible HGAP had LM spread recognized at the time of initial diagnosis. All adult high-grade astrocytic tumor types are capable of LM or dural spread, including HGAP.

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