Epidemiology and survival of primary intracranial malignant tumor patients with drop metastasis: a population-based analysis

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Abstract

Background: Drop metastasis significantly impacts the survival of patients with primary intracranial malignant tumors. Using the information of collaborative stage from the SEER database, we aim to analyze the epidemiology and prognosis of primary intracranial malignant tumor patients with drop metastasis.

Methods: We analyzed the distribution of patients and the frequency according to the demography and clinical characteristics of patients with drop metastasis. We also analyzed the survival of these patients with drop metastasis. Multivariate Cox proportional hazards models were used to analyze possible prognostic indicators.

Results: A total of 56,839 cases with primary intracranial malignant tumors were ultimately included in this cohort study. A total of 792 cases were confirmed to have drop metastasis. The average rate of drop metastasis was 1.4%. Most of the patients with drop metastases were diagnosed before ten years old. The three most common primary intracranial malignant tumors with drop metastasis were glioblastoma, embryonal/primitive/medulloblastoma, and anaplastic astrocytoma. Embryonal/primitive/medulloblastoma had the highest drop metastasis rate, at 11.6%. Tumors located in the infratentorial space and ventricles had a higher rate of drop metastasis than tumors in other locations. The prognosis for patients with drop metastasis is poor. Routine complete treatment (surgery of the primary tumor plus chemoradiotherapy) can significantly improve overall survival.

Conclusion: We conducted a population-based analysis of primary intracranial malignant tumor patients with drop metastasis. Our study can help clinicians acquire general information on the epidemiology and survival of primary intracranial malignant tumor patients with drop metastasis.

Keywords: Collaborative stage project; Drop metastasis; Epidemiology; Primary brain tumor; SEER program.

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