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Second Cancer affecting the Central Nervous System: Systematic Literature Review Exploring the Link between Malignant Melanoma and Glioblastoma

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Abstract

Background: Glioblastoma (GBM) is a malignant primary brain cancer, among the most devastating and lethal diseases of the central nervous system. Similarly, malignant melanoma (MM) is responsible for most skin cancer-related deaths. A link between those two aggressive cancers has not yet been established. We present here a systematic review of the literature and an exemplificative case.

Methods: A systematic review of the literature was conducted to assess possible commonalities between MM and GBM. An exemplificative surgical vignette of a 73-year-old patient with occurrence of a fronto-basal GBM after surgical removal of a metastasis of MM in the same location was then detailed.

Results: Fifteen studies currently published in the English international literature support a link between MM and GBM, both based on epidemiological and pathophysiological/genetic aspects. This constatation is reinforced by our surgical vignette of a collision tumor with the occurrence of both tumors in the same location several years apart.

Conclusion: The evidence reported in the literature, as well as our surgical vignette, support a likely link between pathogenesis of GBM and MM.

Keywords: Collision Tumor; Glioblastoma; Malignant Melanoma; Neurooncology.

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