The Unwanted Cell Migration in the Brain: Glioma Metastasis.


Abstract
Cell migration is identified as a highly orchestrated process. It is a fundamental and essential phenomenon underlying tissue morphogenesis, wound healing, and immune response. Under dysregulation, it contributes to cancer metastasis. Brain is considered to be the most complex organ in human body containing many types of neural cells with astrocytes playing crucial roles in monitoring both physiological and pathological functions. Astrocytoma originates from astrocytes and its most malignant type is glioblastoma multiforme (WHO Grade IV astrocytoma), which is capable to infiltrate widely into the neighboring brain tissues making a complete resection of tumors impossible. Very recently, we have reviewed the mechanisms for astrocytes in migration. Given the fact that astrocytoma shares many histological features with astrocytes, we therefore attempt to review the mechanisms for glioma cells in migration and compare them to normal astrocytes, hoping to obtain a better insight into the dysregulation of migratory mechanisms contributing to their metastasis in the brain.

KEYWORDS: Astrocyte; Astrocytoma; Cell migration; Glioblastoma multiforme; Glioma; Metastasis

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