Medulloblastoma initiation and spread: Where neurodevelopment, microenvironment and cancer cross pathways.

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Abstract
Medulloblastomas are the most common malignant pediatric brain tumors. Over the past several decades, a wide range of tumor-centric studies have identified genes and their regulators within signaling pathways that promote medulloblastoma growth. This review aims to raise awareness that transdisciplinary research between developmental neurobiology and cancer foundations can advance our current understanding of how the nervous system contributes to medulloblastomas. By leveraging current advances in neurodevelopment, microenvironment (including secreted neuropeptides), neurotransmitters, and axon guidance cues, we can uncover novel mechanisms used by the nervous system to promote medulloblastoma growth and spread. This will ultimately result in development of improved strategies for cancer prevention and treatment of pediatric patients with this devastating disease. © 2016 Wiley Periodicals, Inc.

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