Review of: "The Stay-Or-Leave Dilemma of Cells in Punctuated Tumors"

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Potential competing interests: No potential competing interests to declare.

The extensive research on tumor microenvironments and their influence on benign masses transitioning to a malignant state has garnered significant attention. In this paper, the authors aim to elucidate the various genetic and physiological factors determining tumor cell behavior and their survival within tumor masses. Notably, their discussion on how anti-angiogenic drugs may inadvertently exacerbate hypoxic conditions, thereby promoting cancer progression, is intriguing. Understanding the characteristics of "fit" and "punctuated" cells as outlined by the authors promises to advance cancer diagnosis and treatment. The complexity of intratumor heterogeneity, influenced by genetic and environmental stimuli, underscores the need for a nuanced approach. While tumor categorization based on developmental stage and anatomical location is acknowledged, the prevalence and diagnostic criteria of punctuated tumors remain unclear. The emphasis on chromosomal mutations is commendable, yet the consistent support for the role of hypoxia and core tumor cells lacks thoroughness. A more comprehensive exploration of environmental cues, such as nutrition and hypoxia, would better address the abstract's concerns. Additionally, delineating between "fit" cells and those capable of reverting to a neoplastic state, as per cancer stem cell theory, underscores the imperative for further research in this domain.