



CANCER STEM CELLS IN MALIGNANT GLIOMAS

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A lot of interest, experimental data and debate are growing on the idea that cancer stem-like cells exist in tumors and are responsible for tumor initiation and perpetuation. Initial findings corroborating the concept were obtained in leukemias: after that, malignant gliomas were in focus. Different experimental lines have proposed that immune selection of tumor cells based on the expression of stem cell markers, isolation of neurospheres and the sorting of a side population may at least converge in suggesting that not all gliomas cells have the same tumorigenic potential. The concept of complex cell hierarchies, making tumor organization similar to that of an organ, as well as that of the cell of origin (neural stem cells, neural precursor cells, de-differentiating glial cells?) are, on the other hand, less defined and matter of considerable debate. Remarkably, this new wave of research may provide important therapeutic consequences, indicating new targets for pharmacological compounds or immunotherapy. This may in turn give intriguing insights on the biology of cancer stem-like cells as well as of glial cells and their progenitors.