A neurosurgeon's guide to stem cells, cancer stem cells, and brain tumor stem cells.

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Stem cells and their potential applications have become the forefront of scientific, political, and ethical discourse. Whereas stem cells were long accepted as units of development and evolution, it is now becoming increasingly clear that they are also units of oncogenesis. Although the field of stem cell biology is expanding at an astounding rate, the data attained are not readily translatable for the physicians who may eventually deliver these tools to patients. Herein, we provide a brief review of stem cell and cancer stem cell biology and highlight the scientific and clinical implications of recent findings regarding the presence of cancer-forming stem cells in brain tumors.

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