



Stem Cells International

Special Issue on
**The Adult Neurogenic Niche and Central Nervous
System Neoplasms**

CALL FOR PAPERS

The subventricular zone (SVZ) is the largest neurogenic niche in the brain of adult mammals including humans. It is comprised of Neural Stem Cells (NSCs), transient amplifying cells, migratory neuroblasts, and supportive structures that regulate the biology of NSCs. The demonstration of adult mammalian neurogenesis has sparked interest in the potential use of NSCs as cell therapy for neurodegenerative diseases including repopulation of damaged areas. In addition, endogenous NSCs display an intrinsic tropism to areas of inflammation and tumor mass, a property potentially exploitable for specific deliverance of therapeutic agents.

However, there are points of concern about the roles NSCs and the neurogenic niche can play in a brain tumor. The concerns are based on the ability of the niche to regulate cell differentiation, proliferation, and migration, as well as the pluripotential capacity of NSCs that could become tumor cells. This relationship has been further explored by reports of the clinical implications of glioblastoma (GBM) proximity to the SVZ. It has been found that patients who suffer from SVZ-proximal GBMs present a higher incidence of distal recurrence, as well as worse survival expectancy. Furthermore, retrospective studies show that GBM patients who receive radiotherapy including the ipsilateral SVZ present a more prolonged survival when compared to patients where the ipsilateral SVZ is avoided, suggesting a beneficial effect of irradiating the neurogenic niche.

Consequently, there is a need for more studies on the interactions between brain tumors and the neurogenic niche. Basic research at the *in vivo* or *in vitro* level, as well as retrospective and prospective clinical research is necessary to reconcile the beneficial or detrimental contribution of the neurogenic niches to brain tumors. We invite authors to submit original and review articles contributing to a better understanding of this interaction.

Potential topics include, but are not limited to:

- ▶ Current findings on the biology of the mammalian SVZ
- ▶ Regulation of cell proliferation, migration, and differentiation in SVZ and in brain tumors
- ▶ Comparison of neural stem cells and brain cancer stem cells
- ▶ SVZ contribution to brain tumor formation and progression
- ▶ Effects of anatomical proximity of brain tumors to the SVZ
- ▶ Therapeutic strategies for brain tumors in relation to the neurogenic niches
- ▶ Experimental models for studying interactions of brain tumor cells with the host microenvironment

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/sci/neni/>.

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