



Hindawi

Stem Cells International

Special Issue on
**The Current State of Cell Therapies for
Cerebrovascular Diseases**

CALL FOR PAPERS

Even though cerebrovascular diseases are amongst the main causes of global health burden, currently available treatments have limited potential in the improvement of such conditions. Cell therapies, firstly employed in hematological ailments, are now being studied in detail as possible therapeutic approaches for different disorders. In the preclinical setting, numerous experimental studies have indicated that cell therapies may lead to positive functional and structural effects in cerebrovascular disease models, but the mechanisms for these therapies are the focus of continuous investigation. In the clinical field, there have only been initial reports until now, and further studies are necessary to evaluate the potential safety and efficacy of cell therapies in cerebrovascular patients. Moreover, the process of transferring results from experimental treatment studies to clinically applicable treatment procedures comes with a number of challenges we have to be aware of, including regulatory and technological ones.

In this special issue, we welcome submissions from researchers investigating animal models of cerebrovascular diseases, as well as those of from clinicians working with patients affected by focal and global cerebral ischemia, hemorrhagic stroke, and hypoxic-ischemic encephalopathy including vascular dementia. Special emphasis shall be given on the translational process and on aspects helping us to understand how we can enhance its safety, efficacy, speed, and patient orientation. Therefore, we invite the contribution of original research, review articles, and concept papers.

Potential topics include, but are not limited to:

- ▶ **Basic mechanisms and exploratory research**
 - ▶ Mechanisms of cell therapies for cerebrovascular diseases
 - ▶ Evaluation of different cell types in potential therapies for cerebrovascular diseases
 - ▶ Combination therapies and neurorehabilitation
 - ▶ Regeneration versus compensation
- ▶ **Translational challenges and opportunities**
 - ▶ Investigations on the timing and dosing of cell therapies for cerebrovascular diseases
 - ▶ Assessment of different administration routes and targeted cell delivery strategies
 - ▶ Challenges in GMP-grade cell production including appropriate potency assays
 - ▶ Behavioral testing in confirmative research
- ▶ **Clinical implementation and assessment**
 - ▶ Next generation technologies for noninvasive cell tracking, safety, and efficacy readout
 - ▶ Identification of proper clinical outcome and efficacy measures and related statistics
 - ▶ Potential challenges related to comorbidities, age, and polypharmacology
 - ▶ Patient-centered, multidisciplinary treatment strategies, and precision medicine approaches

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