

Special Issue on Promoting Tissue Repair by Micrograft Stem Cells Delivery

CALL FOR PAPERS

Tissue repair/regeneration represents a big challenge for the scientific community which is always looking for new strategies able to promote these processes, especially for those tissues where the regenerative potential is very low. Furthermore, these strategies are directly related to improvements in the quality of life and clinical outcomes of patients requiring this type of intervention.

For regenerative medicine strategies to be successful, the material used (mostly combinations of scaffolds, growth factors, and stem cells) must be able to replace the damaged tissue and function as the original tissue did, or be able to stimulate regeneration of the original tissue. In this respect, tissue engineering is assuming a growing interest in the scientific community in order to promote tissue regeneration through the combined use of biomaterials and biologic mediators.

Tissue grafting is a widely used approach to repair a damaged area, and its success depends on the attachment or engraftment rate into the recipient site. This in turn can be regulated by three principal aspects: good vascularization of the recipient area, maximum adherence between the graft and the recipient site, and optimal immobilization of the graft to restore revascularization. This approach offers promising results and provides a rapid although temporary solution, but it can be extremely expensive, especially when the defect to be repaired is large and the availability of donor sites is limited. In contrast, micrografting techniques overcome the drawbacks of classical grafting, allowing for the coverage of a defect by utilizing a minimal amount of donor skin. However, while micrografting is an appealing strategy for wound coverage, additional studies are still needed to identify its true potential and pitfalls.

In this context, it becomes important to develop protocols or procedures able to maximize tissue repair/regeneration while preserving the cell viability and content of stem cells of grafts to optimize their rate of engraftment. Additionally, these strategies should have significant immunomodulatory effects to reduce the inflammatory environment typical of injured sites.

In this special issue, researchers are encouraged to submit original clinical research articles, clinical advances, and review articles which address current advancements related to the development of new procedures or protocols able to promote the repair or regeneration for all kinds of tissues using stem cell containing micrografts. Additionally, the special issue welcomes original basic research and review articles focusing on biological and cellular mechanisms involved in tissue repair or regeneration to better understand the key players activated in this process.

Potential topics include but are not limited to the following:

- ▶ Stem cells in tissue engineering: micrografts, growth factors, biomaterials
- ▶ Stem cell strategies for the management of nonhealing wounds
- ▶ Advances in bone and cartilage regeneration using stem cells
- ▶ New frontiers in cardiac regeneration
- ▶ Biological, cellular, and anti-inflammatory mechanisms involved in tissue repair/regeneration

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/sci/nftrr/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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