Therapeutic Potential of Mesenchymal Stem Cells for Diabetic Complications: Translational Pathway in the EU



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Monday, April 1, 2019 3pm in the TBEP lounge 661 University Ave. 14th floor



Abstract

Diabetes mellitus is assuming pandemic proportions and is associated with microvascular and macrovascular complications which result in major morbidity and mortality. These conditions represent unmet medical need and new treatment approaches are needed. My laboratory is interested in the use of mesenchymal stromal cells to treat diabetic complications as they are readily isolated, can be culture expanded under GMP conditions and possess anti-inflammatory, immunomodulatory and angiogenic properties. We are particularly interested in the translation of laboratory discoveries to the clinic and to this end have constructed specialized GMP and clinical research facilities. The presentation will describe the translational pathway, with an emphasis on regulatory issues, in progressing from the laboratory to early phase clinical trials. Pre-clinical and early clinical trial experience of the use of MSCs in diabetic macrovascular and microvascular disease will be presented. Advances in cell manufacture will also be described.

