Induced Pluripotent Stem Cells for Post Myocardial Infarction Repair
Eduardo de la Rosa Fernández - Biomedical sciences - Faculty of Biosciences - Universidad Autónoma de Barcelona

Introduction
The aim of this review is to study translational aspects of induced pluripotent stem cell technology in cardiac repair after myocardial infarction. This will be achieved by illustrating the current state of the art of this technology and, furthermore, by evaluating the limitations for clinical translation.

Methods

Objective
Search relevant information of the reviewed topic in scientific databases
Summarize the information obtained, make a scientific poster and a bibliographic review
Learn about the future perspectives of iPSC technology and its clinical translation

Results

Therapeutic effects
Cardiomyocyte proliferation
Paracrine signaling

IPSCs uses limitations
Limitation
Solution
Tumor formation
Use non-integrative vectors
Arrhythmia
Co-administration with EC
Autoimmune response
Autologous transplant
Low reproducibility
Standardize techniques
Low efficiency
Optimize current approaches

Conclusions
• iPSCs can differentiate to cardiac cells in vitro and in vivo
• iPSCs derived cardiac cells produce therapeutic effects in hearts after suffering from MI
• Therapeutic effects mainly occur through paracrine signaling.
• Combination of multiple cell types, tissue engineering and prosurvival factors enhance graft therapeutic effect.
• Some problems still need to be solved before clinical translation is occur

References

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