

Stem Cells Regenerate Failing Hearts!

Results from the MSC-HF Trial

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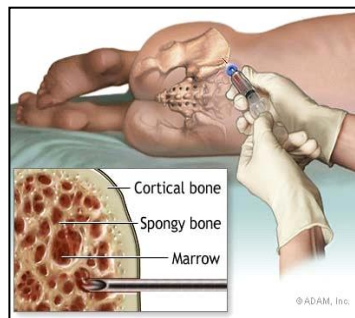
What we found

Stem cell treatment in severe heart failure

- **Treatment safe**
- **Improved heart pump function**
- **Increased heart muscle mass**
- **Reduced scar tissue**
- **Fewer symptoms and better quality of life**

The MSC-HF trial

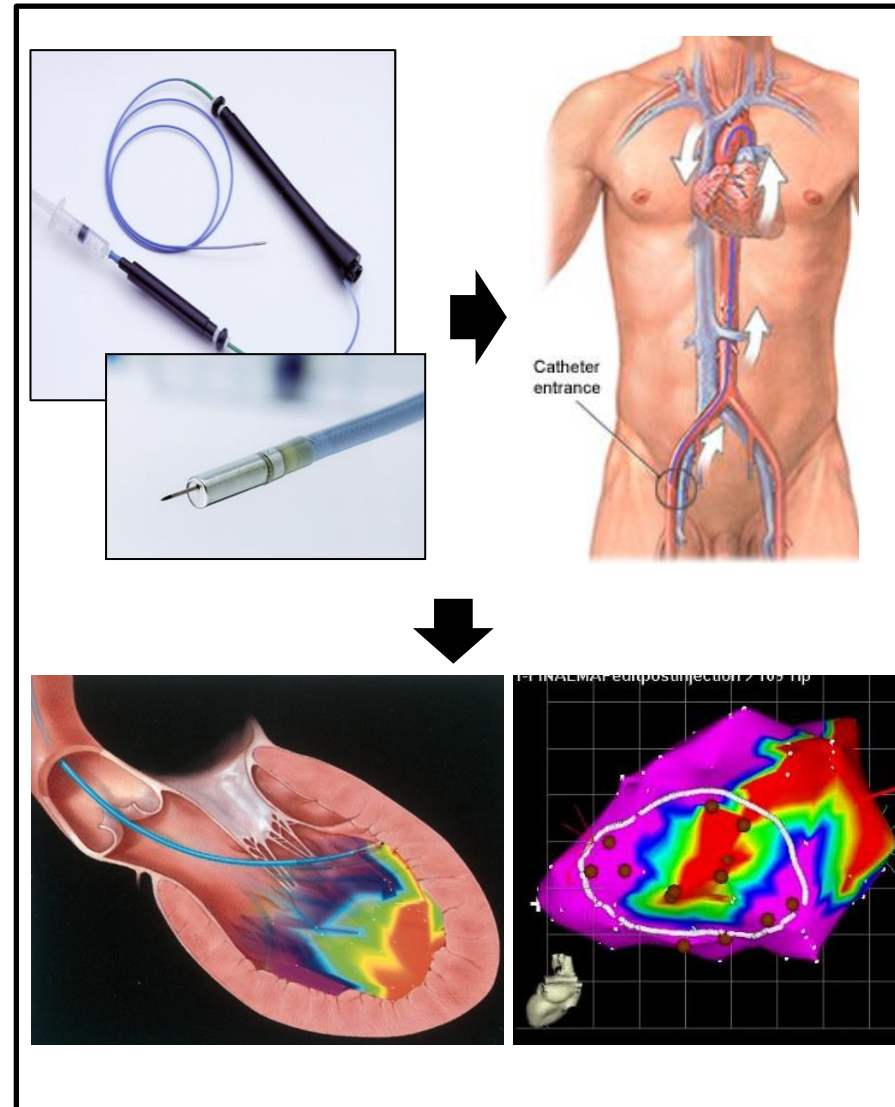
- 59 patients
 - 65.5 ± 8.77 years
 - Severe ischemic heart failure
 - Ejection fraction 28.1 ± 8.8 %
 - NYHA Class II-III
 - No further treatment options
- Intramyocardial Injection
 - Placebo (20)
 - Mesenchymal Stromal Cells (MSCs) (39)



Bone-Marrow

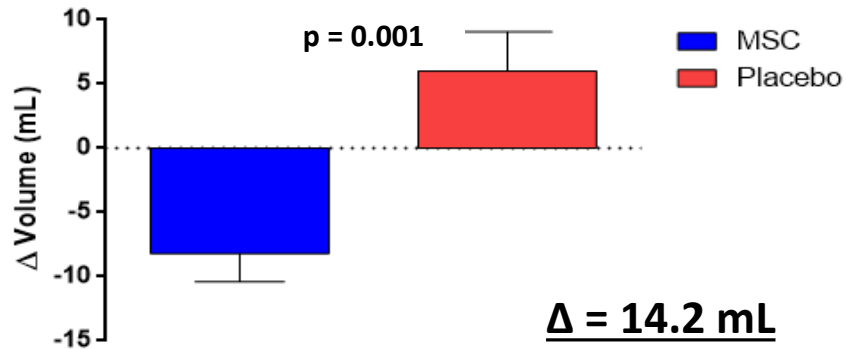


Culture expanded

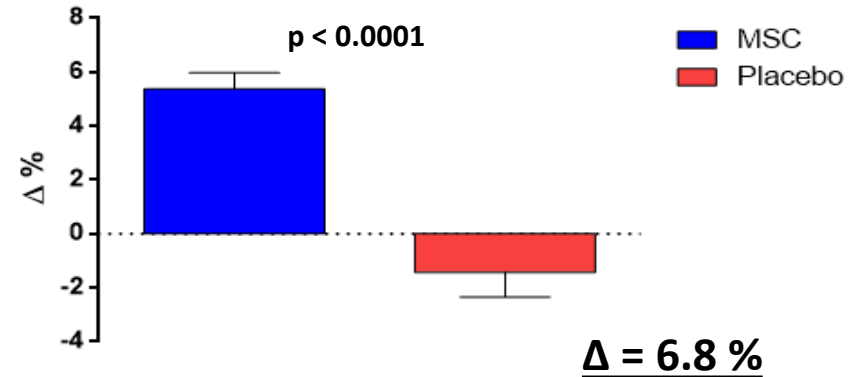


Results I

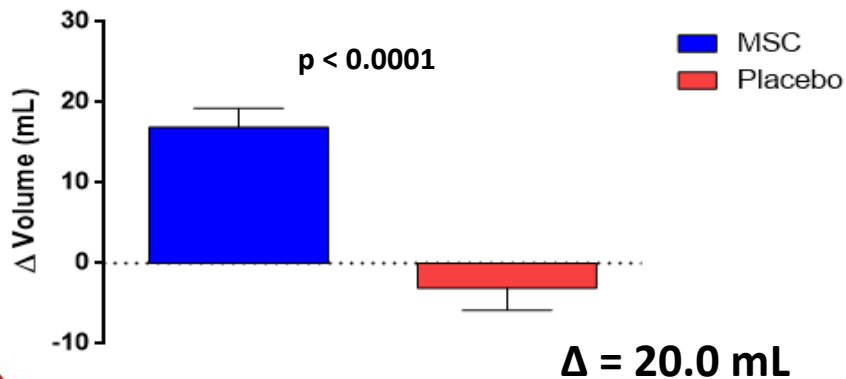
End systolic volume



Ejection fraction



Stroke volume

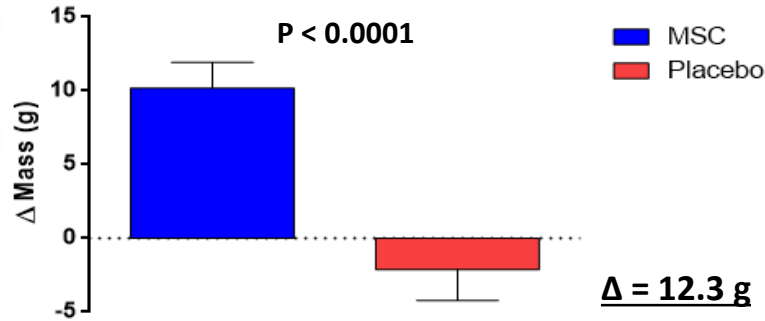


**Improved heart
pump function**

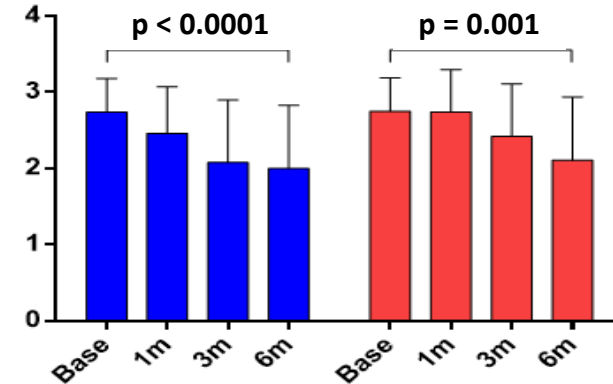
(Mean + SEM)

Results II

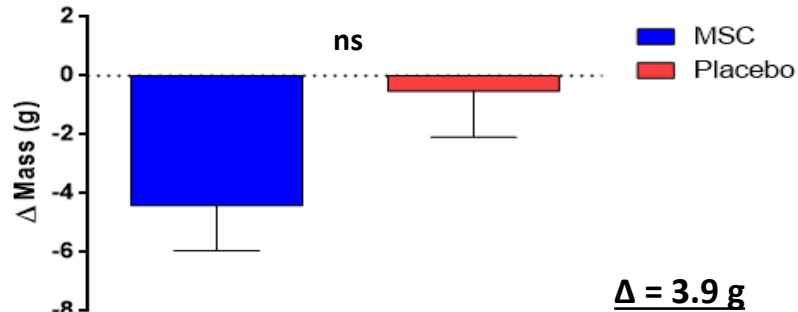
Myocardial mass (end systolic)



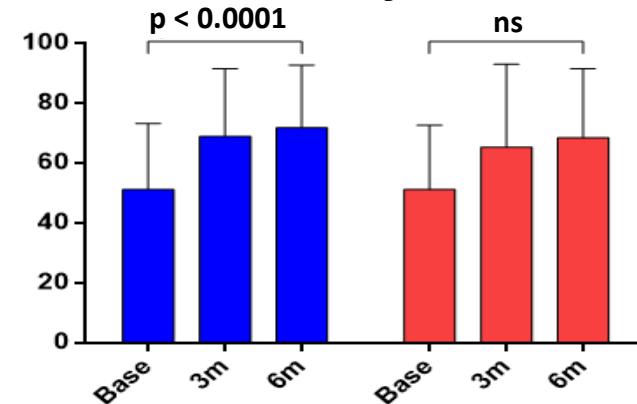
NYHA Class



Scar tissue mass (n=17)



KCCQ – Quality of Life



New heart muscle tissue

**Fewer symptoms,
better quality of life**

(Mean + SEM)

MSC-HF Trial - Summary

Stem cell treatment in severe heart failure

- Treatment safe
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