29th Annual
J.P. Morgan Healthcare Conference

January 10-12, 2011

Safe Harbor Statement

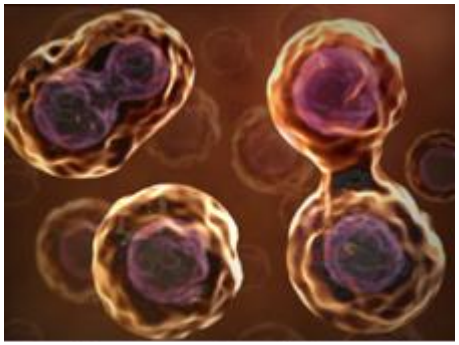
This presentation contains forward-looking statements that involve risks and uncertainties. These statements may concern, among other things, our business strategy and market opportunities, the development of pharmaceutical products, and future financial and operating results.

Additional information that may affect our business and financial prospects, as well as factors that would cause our actual performance to vary from our expectations, may be found in our filings with the Securities and Exchange Commission.

Cephalon®
INSIGHTS INTO MEDICINE℠

Mesenchymal Precursor Cell (MPC) License From Mesoblast Limited

MPCs produce cytokines and/or growth factors that induce endogenous tissue repair or cell proliferation



Promising early data with:

- **Congestive Heart Failure – phase 2**
- **Myocardial Infarction – pre-clinical**
- **Bone marrow transplant (cord blood expansion) – phase 2**

mesoblast
the regenerative medicine company

Single Intra-Myocardial Injection Of Allogeneic MPC For Long-Term Treatment of Congestive Heart Failure

Phase 2a Congestive Heart Failure (CHF) Clinical Trial

- 60 patient multi-center, randomized, controlled trial
- Class II-IV CHF with EF < 40%
- Randomized 3:1 controls to MPC at 25 M, 75 M, or 150 M cell doses
- Cells injected by JNJ NOGA Myostar™ catheter

- Primary endpoint of safety already met:
  no adverse events associated with MPC at any dose

- Secondary endpoints evaluate effects of MPC on

(a) cardiac/heart failure hospitalization events over time

(b) cardiac-related mortality over time

(c) cardiac functional parameters after patients complete 12 months

Over 1.5 Years Study Follow-Up, MPC Treated Patients Had Fewer Cardiac-Related Events, Hospitalizations, And Deaths Than Controls

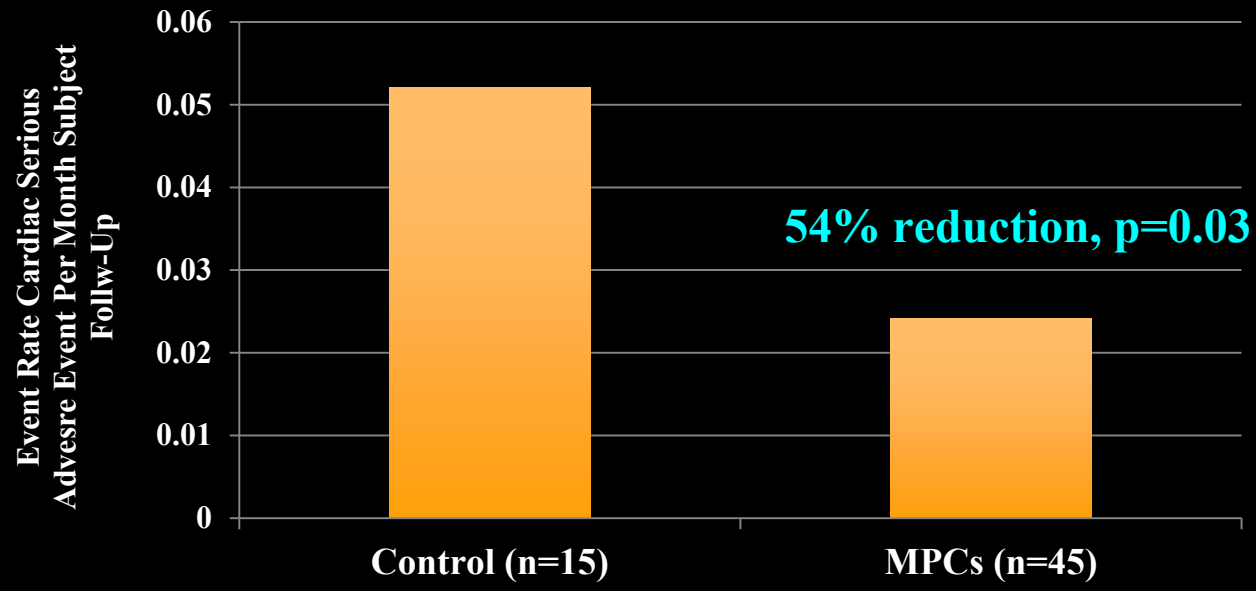
Event	MPC treatment (N=45) No. patients with event (%)	Controls (N=15) No. patients with event (%)	p value
Any Serious Adverse Cardiac Event (SAE)	20 (44.4%)	14 (93.3%)	0.001
Repeat SAEs	5 (11.1%)	5 (33.3%)	0.102
Any Hospitalization For Heart Failure	5 (11.1%)	3 (20.0%)	0.4
All Cause Deaths	2 (4.4%)	2 (13.3%)	0.26
Cardiac Deaths	0 (0.0%)	2 (13.3%)	0.059
Any Major Adverse Cardiac Event (MACE*)	3 (6.7%)	6 (40%)	0.005
MACE or Any Hospitalization for Heart Failure	6 (13.3%)	6 (40%)	0.056

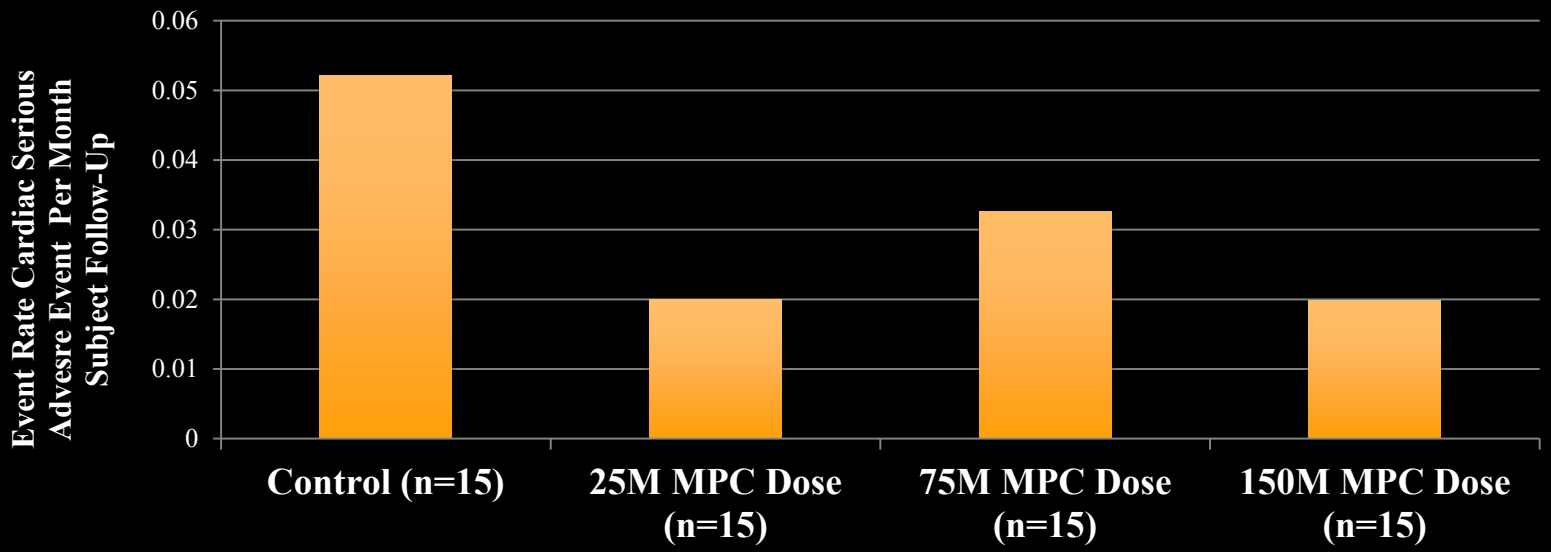
Interim data analysis December 2010, after all patients have reached 6 months follow-up

*MACE defined as composite of MI, revascularization, or cardiac death

mesoblast
the regenerative medicine company

MPC Treatment Lowers Rate Of Serious Adverse Cardiac Events Over Time

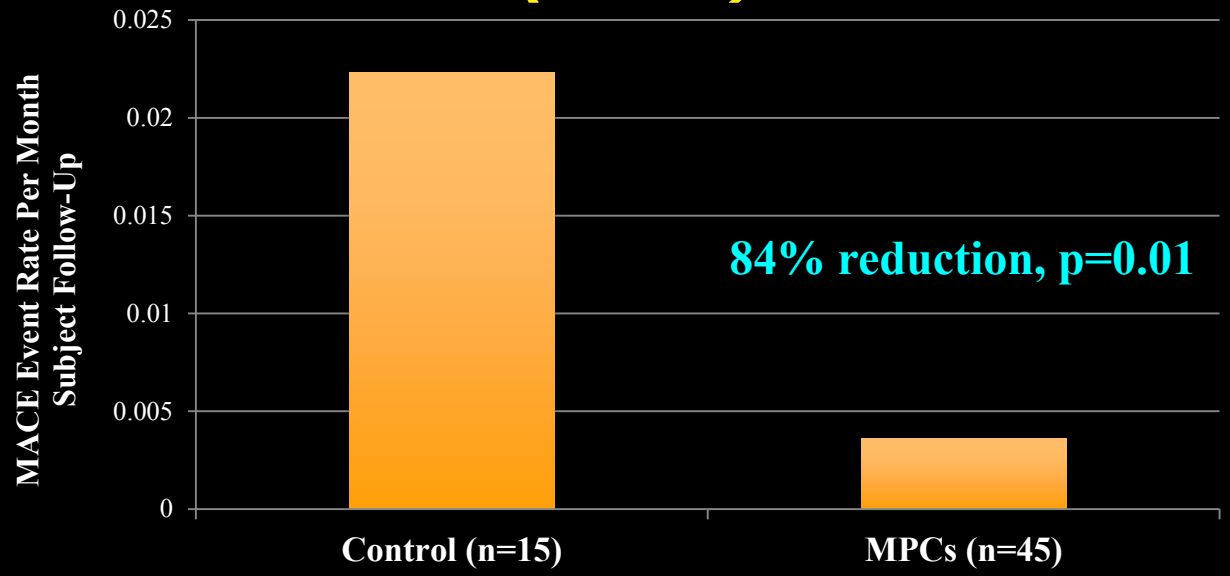


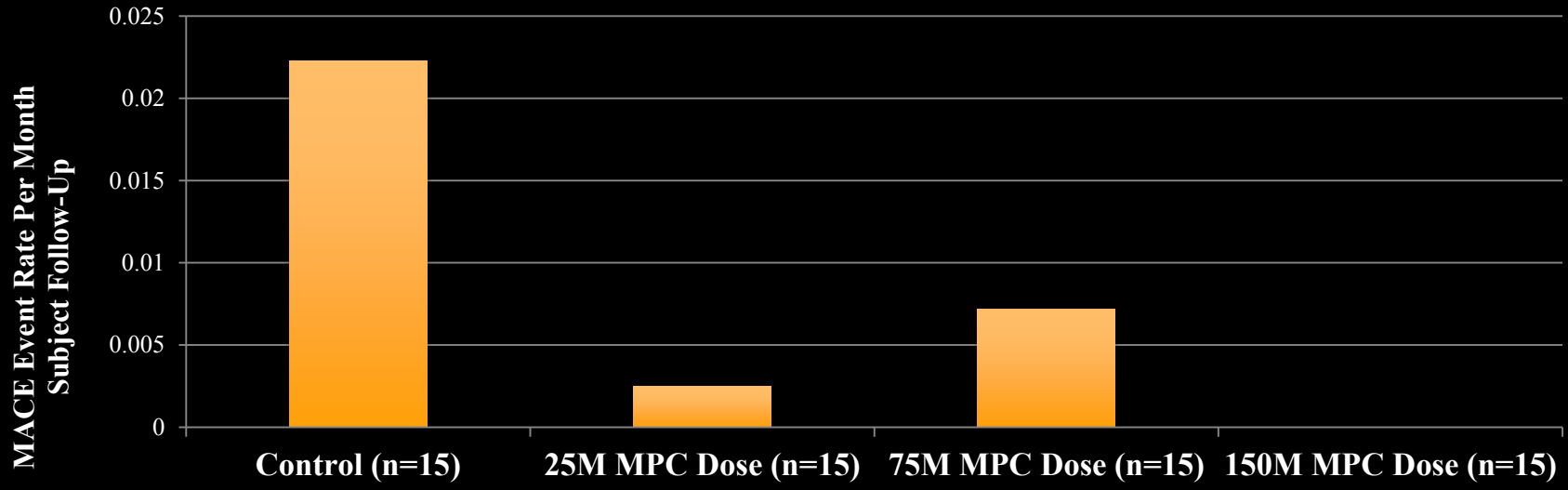


MPC treated (n=45) followed for total 827.6 person-months
Controls (n=15) followed for total 268.5 person-months

mesoblast
the regenerative medicine company

MPC Treatment Lowers Rate Of Major Adverse Cardiac Events (MACE*) Over Time

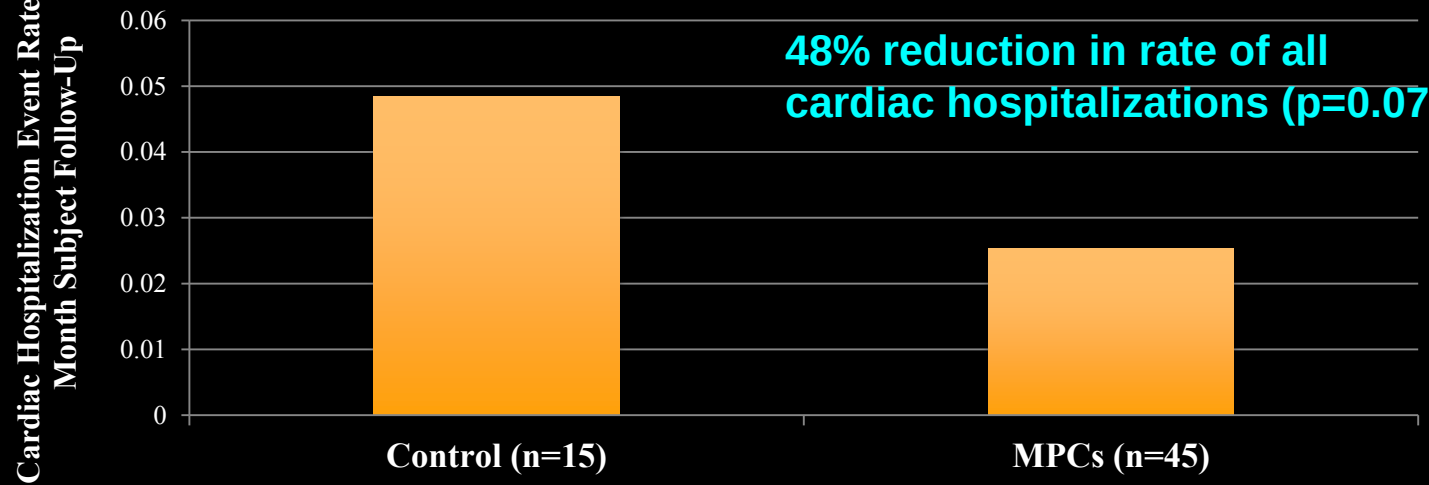


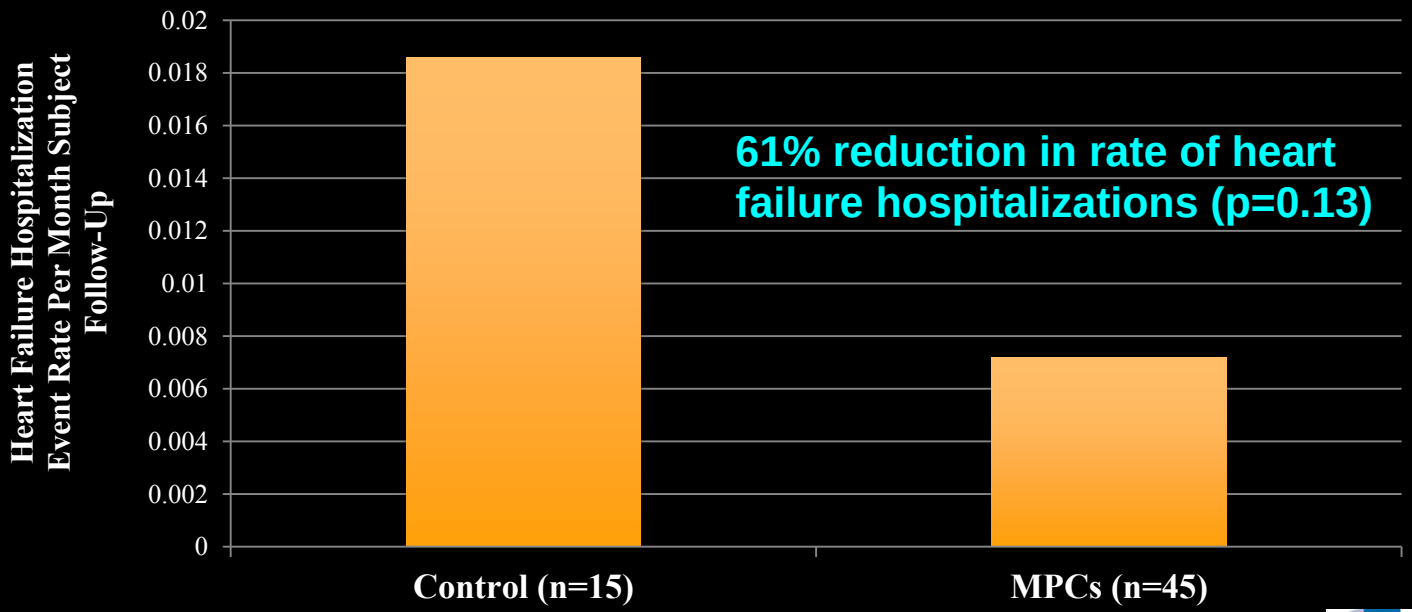


- **MACE defined as composite of MI, revascularization, or cardiac death**
  - **MPC treated (n=45) followed for total 827.6 person-months**
  - **Controls (n=15) followed for total 268.5 person-months**

mesoblast
the regenerative medicine company

MPC Treatment Lowers Rate Of All Cardiac-Related And Heart Failure Hospitalizations Over Time





MPC treated (n=45) followed for total 827.6 person-months
Controls (n=15) followed for total 268.5 person-months

mesoblast
the regenerative medicine company

Conclusions

Safety and Efficacy:

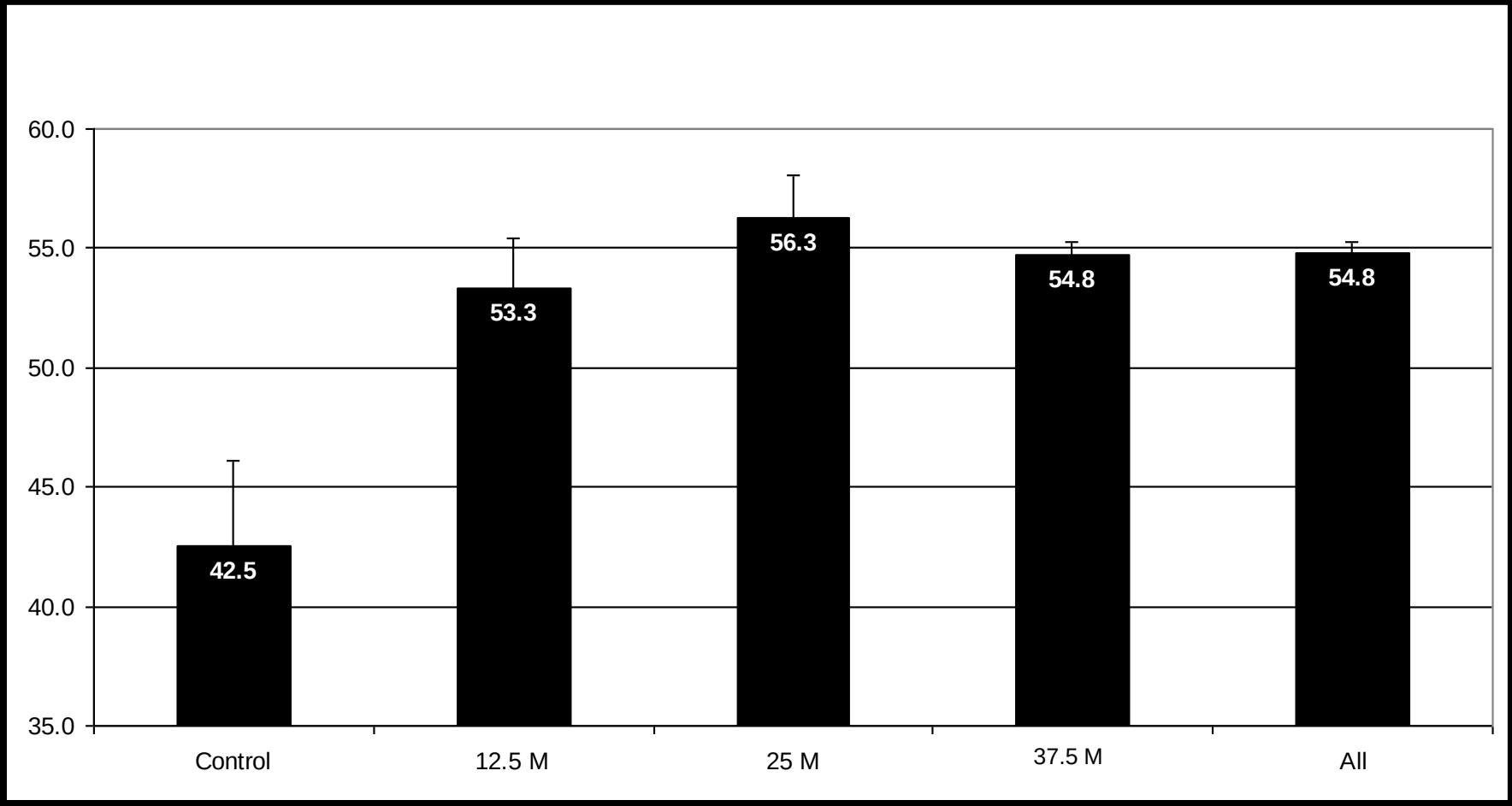
- **Intra-myocardial injection of allogeneic MPC is safe in patients with advanced congestive heart failure**
- **No cell-related adverse events seen at any dose tested**
- **Interim analyses indicate that MPC treatment significantly reduces rate of major adverse cardiac events, cardiac-related hospitalization, and mortality over time**
- **Lowest MPC dose is at least as effective as higher doses tested**
- **Hard end-points achieved to date form basis for the key primary end-points for FDA Phase 3 trial in heart failure patients**

Intra Coronary Allogeneic Mesenchymal Progenitor Cell (MPC) Transplantation In Myocardial Infarction in Sheep

Intra-Coronary Infusion Of Allogeneic Sheep MPC In Acute Myocardial Infarction

- A total of 66 sheep
- Balloon occlusion 90 minutes / reperfusion
  (analogous to angioplasty + stent)
- 30 animals survived the heart attack procedure and were included in analysis
  - 10 control
  - 7 received 12.5M MPC
  - 7 received 25M MPC
  - 6 received 37.5M MPC
- Normal TIMI 3 flow in all animals post cells (i.e. no reperfusion problems)
- 4, 8 week analyses of ejection fraction, left ventricular volumes
- At sacrifice, histology for vascular density, collagen content

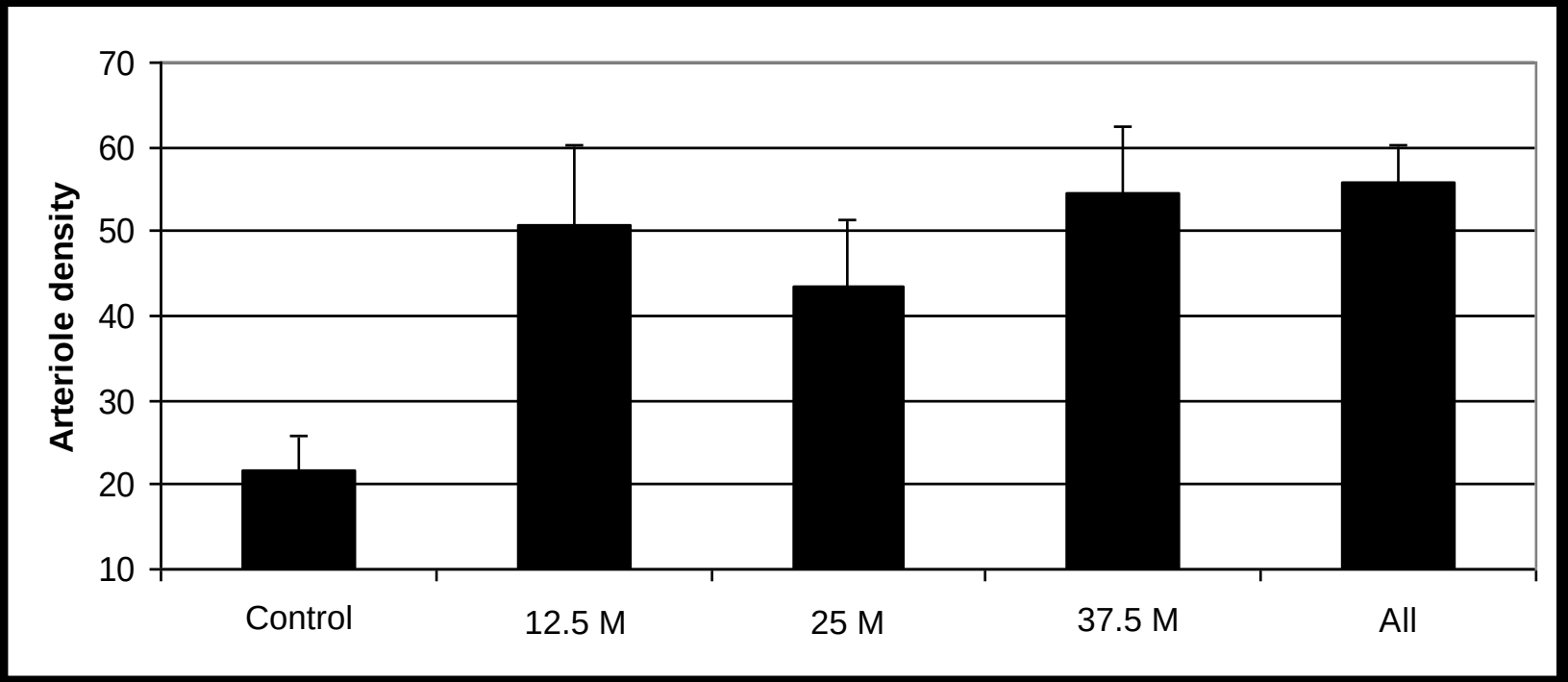
Ejection Fraction - Global LV function By PV Loop
Left Ventricular Ejection Fraction At 8 Week Follow Up



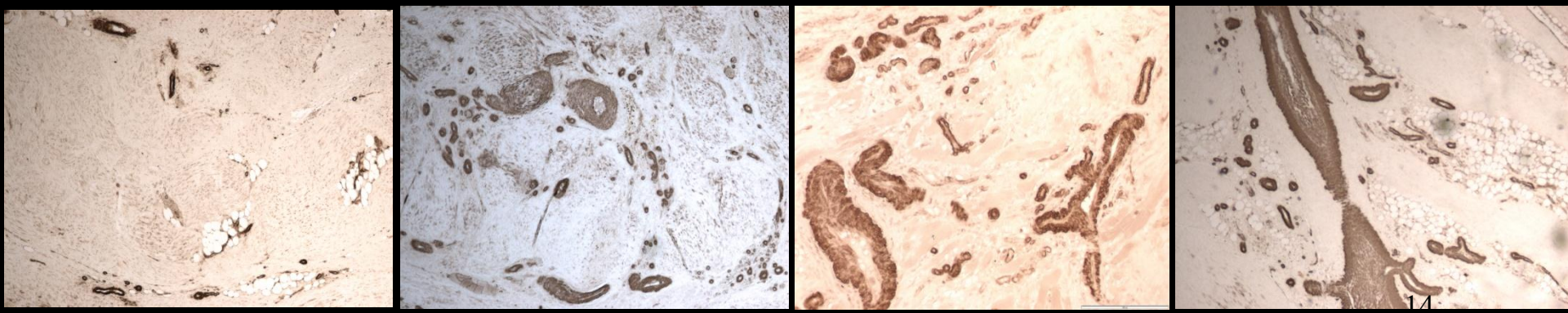
P=0.007 P=0.003 P=0.031 P<0.001

mesoblast
the regenerative medicine company

Arteriolar Density Infarct Zone



P=0.008 P=0.022 P=0.005 P=0.006



Control 12.5 M 25 M 37.5 M

Conclusions

Safety and Efficacy:

- **Intra coronary allogeneic MPC infusion is safe and feasible in a large animal model of AMI and reperfusion**
- **No cell-related flow or arrhythmogenic effects seen**
- **MPCs significantly improve EF and ventricular volumes**
- **MPCs induce arteriogenesis**
- **MPCs reduce scarring and collagen replacement of heart muscle**

mesoblast
the regenerative medicine company

Allogeneic MPCs Used As A Feeder Layer To Expand Cord Blood Hematopoietic Stem Cells For Transplantation

Results Of Double Cord Transplants Using MPC Expansion

- **25 patients transplanted, under IND protocol**
- **Avg. age 40 yrs, all with myeloablative regimen for disease relapse**
- **Cord CD34+ HSC expanded >44-fold by co-culture with allogeneic MPC**
- **Median time to neutrophil engraftment 15 days**
- **Median time to platelet engraftment 54 days**
- **16% (4/25) patients have Grade III/IV GVHD**
- ***80% (20/25) patients engrafted neutrophils by day 26 and survived at 100 days***

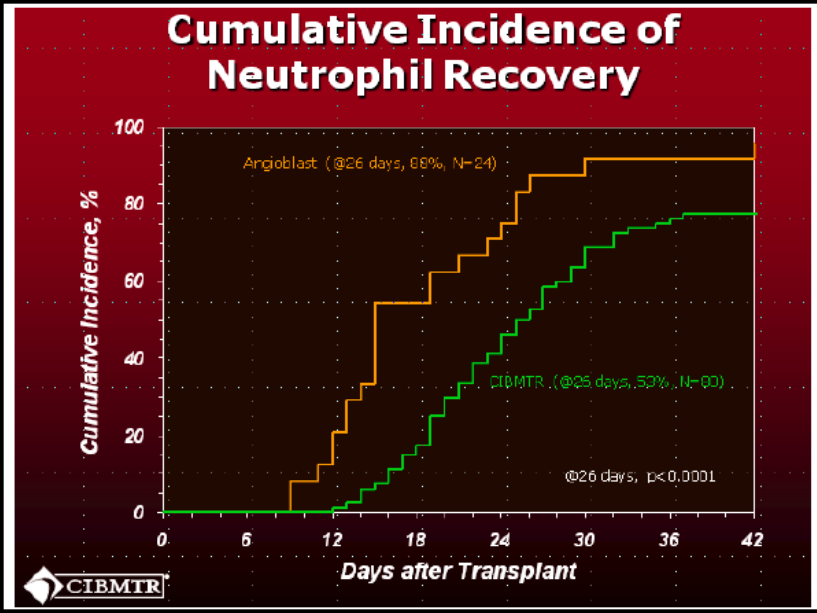
(compared with 46% non-expanded double cord, Brunstein et al Blood 2010)

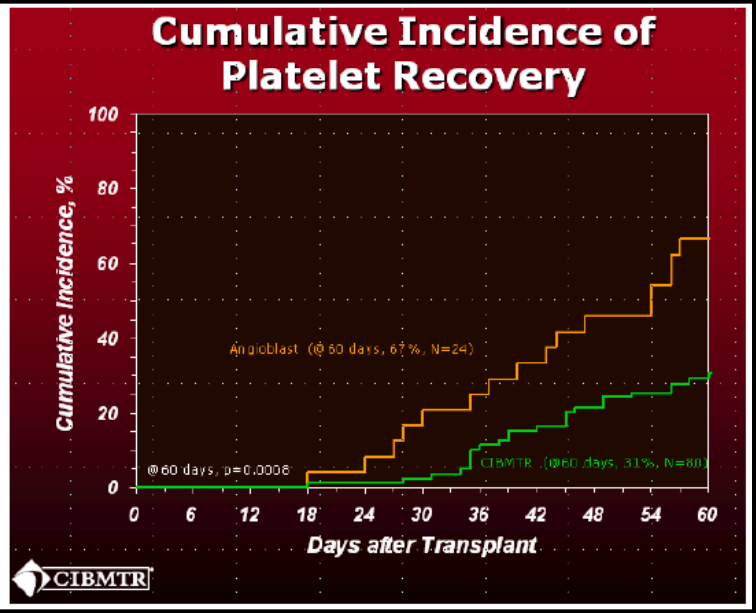
mesoblast
the regenerative medicine company

Comparison Of Angioblast Results With CIBMTR Historical Controls

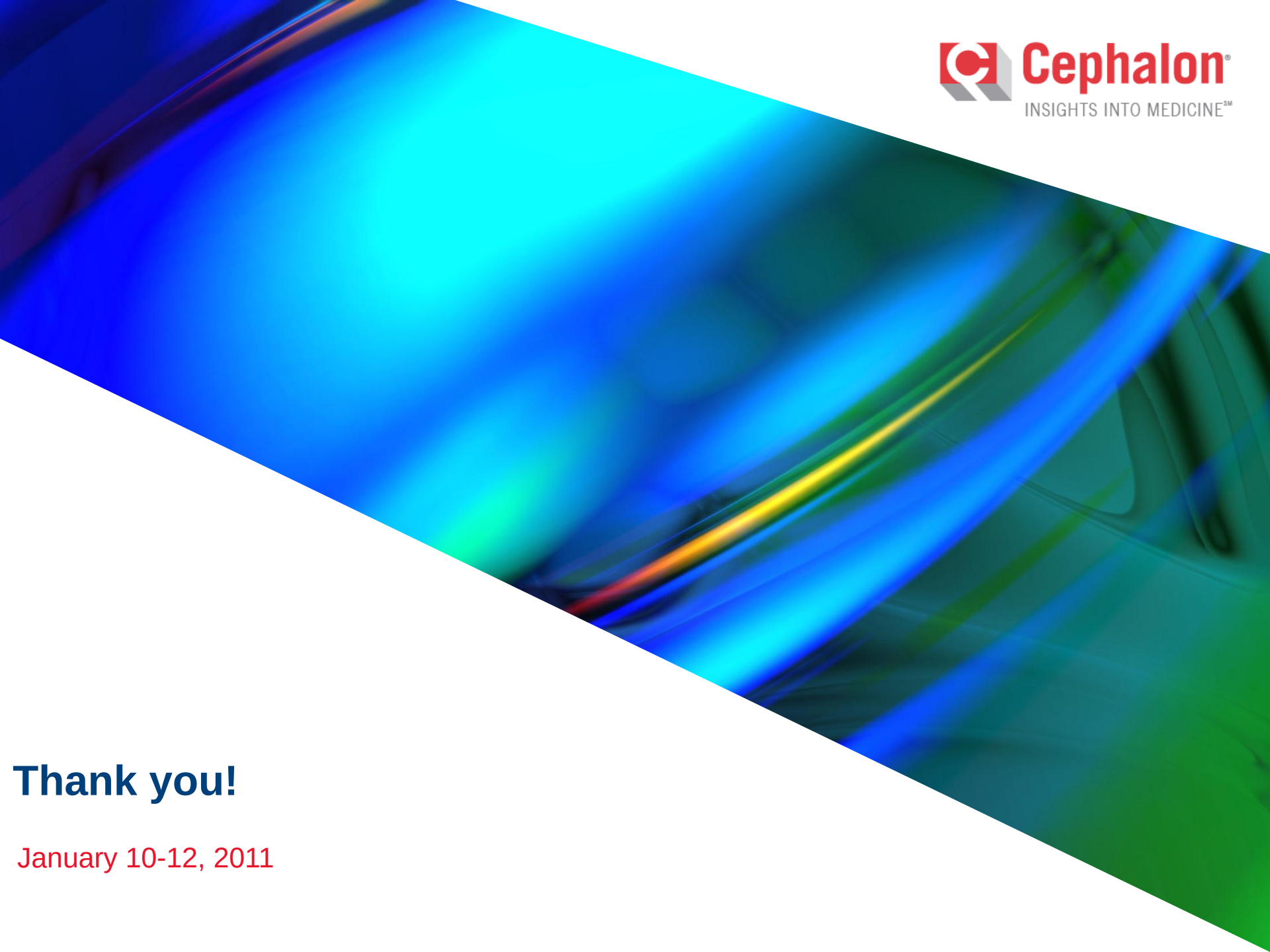
In 2008 and 2009 there were 596 non-expanded double cord transplants registered with the CIBMTR across 79 transplant centers. (300 with myeloablative conditioning regimens)

	Controls	MPC
Median neutrophil engraftment time	26 days	15 days
Median platelet engraftment time	>120 days	54 days
Neutrophil engraftment <26 days + alive at day 100	46%	84%





mesoblast
the regenerative medicine company



Thank you!

January 10-12, 2011