TGF-P, on rep&&ion injury is associated with attenuation of expression of MMP-1 and decreasing shortening in female myocytes at 1 pM.

p67phox NADPH oxidase expression in the I-R myocardium (all P<0.05). Conclusion: extent of myocardlal necrosis and dysfunction despite I-R (all P<0.01). rTGF-P, treat-

Results: Genisteln increased cell shortenmg in male myocytes at 10 and 4OpM, whilst

Gemstein also increased the calcium transients in male myocytes, but produced little

sies and dysfunction indicated by decrease in dp/dt, mean arterial blood pressure and

Myocardial Protection From Ischemia-Reperfusion by TGF-b1 via Inhibition of Upregulation of MMP-1 and p67phox NADPH Oxidase

Hongjian Chen, Daquan Li, Tom Saleen, Jawahan L. Mheta, University of Arkansas for Medical Sciences, Little Rock, AR, Central Arkansas Veterans Healthcare System, Little Rock, AR.

Background: Increasing evidence shows that growth factors, especially transforming growth factor-β (TGF-β), can protect myocardium from ischemia-reperfusion (I-R) injury. Recent studies suggest that matrix metalloproteinases (MMPs) and NADPH oxidase are involved in I-R injury. The present study was designed to examine the modulation of MMP-1 and NADPH oxidase in the cardioprotective role of TGF-β1 during I-R.

Materials and Methods: Sprague-Dawley (SD) rats were subjected to 1 hr of myocardial ischemia [total left coronary artery (LCA) ligation] followed by 1 hr of reperfu-

sion (n=60). Parallel groups of rats were pretreated with vehicle and TGF-β1 (TGF-β1, 4 ng/kg. n=9) before reperfusion, or exposed to sham I-R (control group, n=8). After reper-

fusion, heart size was determined by Evans blue/TTIC staining. Besides continuous hemodynamic monitoring, MMP-1, p67phox (a subunit of NADPH oxidase), lidid peroxi-

dation were quantified in I-R myocardial tissues. Results: I-R caused myocardial necrosis and dysfunction indicated by decrease in dp/dt, mean arterial blood pressure and heart rate (all P<0.01 vs. sham control group). Simultaneously, expression of MMP-1 and p67phox subunit of NADPH oxidase and lipid peroxidation all increased in I-R regions (all P<0.01). Parallel groups of rats were pretreated with vehicle and TGF-β1 (TGF-β1, 4 ng/kg, n=9) before reperfusion, or exposed to sham I-R (control group, n=8). After reper-

fusion, heart size was determined by Evans blue/TTIC staining. Besides continuous hemodynamic monitoring, MMP-1, p67phox (a subunit of NADPH oxidase), lipid peroxi-

sions ANOVA with pc0.05 considered statistically significant. Results: At baseline, chem-

 ostat distribution.

Lipoprotein Subclasses in Children With Familial Hypercholesterolemia

Prodiri M. Kanani, Dawn C. Thomas, David E. Froodman, Janino E. Janosky, Patricia K. Agafita, Trevor J. Orchard, Children's Hospital of Pittsburgh, Pittsburgh, PA.

Background: Children with FH merit early therapeutic interventions to prevent premature coronary heart disease. We studied the effects of simvastatin and antioxidant vitamins on atherogenic lipoproteins. In contrast, simvastatin therapy raised HDL size in addition to lowering LDL particle concentration. These results in children with FH support the fmd-

 Genistein also increased the calcium transients in male myocytes, but produced little

effect in female myocytes. 40 μM genistein shortened APD50 in female myocytes from 329 ± 24 ms (mean ± SEM) to 245 ± 21 ms (n=29, P=0.001) and APD90 from 598 ± 25 ms to 298 ± 19 ms (P<0.001, n=28). Lipid peroxidation were measured.

Results: Genisteln increased cell shortening in male myocytes at 1 μM while decreasing shortening in female myocytes at 1 μM.

POSTER SESSION

1083-156

Sex Differences in the Response of Cardiac Myocytes to the Phytoestrogen, Genistein

Reginald Liew, Mark Stagg, Peter Collins, Kenneth T. MacLeod, National Heart and Lung Institute, Imperial College, London, United kingdom

Background: The soy-phytoestrogen, genistein, appears to be cardioprotective, although the relative benefits for men and women are unknown. We tested the hypothe-

sises that genistein produces different actions on male and female myocytes.

Methods: Left ventricular myocytes, isolated from male and female guinea-pigs, were field stimulated (1 Hz, 37°C) in a superfusion chamber. Genistein-

induced changes in cell shortening and the calcium transient were recorded. The effects of genistein on the action potential duration at 90% and 90% repolarization (APD90 and APD90, respectively) and the peak L-type calcium current (I_{Ca,L}) were measured.

Results: Genisteln increased cell shortening in male myocytes at 1 μM while decreasing shortening in female myocytes at 1 μM.

Conclusion: Genisteln increases contraction in male, but not female, cardiac myocytes.

This may be due to a shortened APD and greater block of I_{Ca,L} in female myocytes.

Poster 2:30-4:30 P.M.

Role of Antioxidant Vitamins and Statins on Lipid Levels and Lipoprotein Subclasses in Children With Familial Hypercholesterolemia

Monday, March 31, 2003, 9:00 a.m.-11:00 a.m.

McCormick Place, Hall A

Presentation Hour: 10:00 a.m.-11:00 a.m.

1083-137

Opposing Effects of Vitamins and Statins on Lipoprotein Subclasses in Children With Familial Hypercholesterolemia

Monday, March 31, 2003, 9:00 a.m.-11:00 a.m.

McCormick Place, Hall A

Presentation Hour: 10:00 a.m.-11:00 a.m.