9 years, 20% NYHA class IV) were referred for an LV lead implantation between September 2003 and March 2006. The mean ejection fraction was 27 ± 8%. Coronary artery disease was present in 27%, 21% were in chronic atrial fibrillation, 21% were upgrades and 82% were left sided implants. An LV lead could be implanted in 92% of patients. In 70%, LV leads were implanted in the initial target vein. The final location was lateral or postero-lateral in 68% and anterior or antero-lateral in 32% of patients. In the right anterior oblique view, the lead was basal in 59%, mid ventricular in 30% and apical in 11% of patients. The mean procedural time was 117 ± 42 min. **Conclusions:** LV lead implantation was achieved in 92% of patients with mean procedure duration of less than 2 hours. Nevertheless, 30% of LV leads were implanted outside of the initial target vein and 32% at the anterior or antero-lateral wall. Further studies are warranted to compare the responder rate to resynchronization therapy when the LV lead is at the initial targeted location versus an alternative site.

0134

Determinants of dipyridamole-induced hypotension in patients undergoing gated myocardial perfusion single-photon emission computed tomography

A De Lorenzo[12], RSL Lima[1], MP Pellini[1], JB Pereira[1], LMB Fonseca[1]. *[1]Universidade Federal do Rio de Janeiro - Brazil [2]Instituto Nacional de Cardiologia Laranjeiras - RJ - Brazil*

Background: Vasodilators are frequently used for the stress phase of myocardial perfusion SPECT (MPS) and usually cause a mild decrease in blood pressure (BP) and increase in heart rate (HR). Hypotension sometimes occurs and has been linked to increased cardiac mortality. The reasons for that are, however, still unknown. We sought to study variables associated with dipyridamole-induced hypotension in patients undergoing gated MPS. **Methods:** Consecutive patients ≥18years were enrolled from April to December 2006; all gave informed consent. Dual-isotope MPS (rest 201Tl/dipyridamole 99mTc-tetrofosmin) was performed. Patients were off caffeine or xantines for 24h, but were allowed to take usual medications. Dipyridamole (0.56mg/kg) was infused over 4 min in the supine patient. HR and BP were recorded at rest and every 2 min, up to 10 min; 99mTc-tetrofosmin (20–25 mCi) was injected at 8 min. Images were interpreted by consensus of 2 observers using a 17-segment model of the left ventricle, with each segment scored 0–4 (normal to absent radiotracer activity). Summed stress and rest scores (SSS, SRS) and the summed difference score (SDS=SSS-SRS) were calculated. Post-stress gated images were processed using QGS software (Cedars-Sinai Medical Center), and left ventricular ejection fraction (LVEF), end-diastolic and end-systolic volumes (EDV, ESV) were automatically obtained. Peak HR and BP values were the highest HR and lowest BP along the 10 minutes. Hypotension was defined as: (1) >20% drop in systolic BP, or (2) peak systolic BP <90mmHg. Continuous variables (mean±SD) were compared by the Student's t test, and categorical variables, by chi-square; a $p<0.05$ was considered statistically significant. **Results:** Three hundred thirty-five patients were studied; 10 (3.0%) had >20% decrease in systolic BP and 4 (1.2%) developed peak systolic BP<90 mmHg. There were no differences between patients with >20% drop in systolic BP compared to patients without hypotension. For those with peak systolic BP<90mmHg, the only significant differences in comparison to patients without hypotension were the lower SDS (0 vs 2.7 ± 4.6; $p=0.001$) and LVEF (38.5 ± 8.7 vs 54.0 ±15.0; $p=0.04$) compared to patients without hypotension. **Conclusions:** A >20% drop in BP after dipyridamole was not associated with clinical, hemodynamic or MPS variables, and underlying cardiac autonomic neuropathy might account for it. For a fall in systolic BP to <90mmHg, an association with left ventricular dysfunction was found. These results suggest that, contrary to myocardial ischemia, left ventricular dysfunction may play a role in the genesis of hypotension, although other mechanisms are probably also involved in this phenomenon. The association with left ventricular dysfunction may be the link between vasodilator-induced hypotension and cardiac death previously found.

0135

Cardiac 123I-MIBG Scintigraphy in a Chagasic Patient: Alterations induced by intracoronary injection of autologous bone marrow mononuclear cells

LMB Fonseca[1], SS Xavier[134], RSL Lima[14], PHC Castro[1], RCS Goldenberg[2], MC Landermann[14], B Gutfilen[14], RC Pedrosa[1], A Hasslocher-Moreno[3], AC Campos De Carvalho[23]. *[1]Faculdade de Medicina e Hospital Universitário Clementino Fraga Filho - UFRJ - Brazil [2]Instituto de Biofísica Carlos Chagas Filho - UFRJ - Brazil [3]Instituto Evandro Chagas - Fundação Osvaldo Cruz - Brazil [4]Proecho/Hospital Samaritano - RJ - Brazil*

Background: The therapeutic use of stem cells for cardiac repair has generated a great deal of interest. Nevertheless little is known about the mechanisms of action of these cells in the various forms of cardiopathy. Chagas disease leads to dilated cardiomyopathy, affects cardiac autonomic activity and reduces left ventricular (LV) ejection fraction. We investigated cell homing using technetium labeled cells, cardiac sympathetic activity using myocardial 123I-metaiodobenzylguanidine ((123)I-MIBG) scintigraphy and improvement in LVEF by echocardiogram in response to marrow bone-derived autologous mononuclear (ABMN) cell therapy in chronic chagasic cardiomyopathy. **Methods:** We evaluated three patients, A, B and C aged 53, 62, 59 years old respectively, with heart failure of chagasic etiology and NYHA classification III, in spite of maximally tolerated medical therapy for cardiac failure. They agreed to participate in an ABMN cell–based therapy research protocol for Chagas cardiomiopathy at our institution. Patients A, B and C received respectively 5 x 108, 2 x 108 and 4 x 108 mononuclear cells that were infused into their coronary arteries after labeling with (99m)Tc. Single Photon Emission Computed Tomography (SPECT) (201)Thallium scintigraphy was carried out one week before stem cell therapy in order to compare to stem cell biodistribution in the heart. They underwent (123)I-MIBG scintigraphy before and one month after bone marrow cell infusion. The early and delayed (123)I-MIBG planar images were quantified as a heart-to-mediastinum ratio (H/M) and washout rate after 1 and 3 hours after radiotracer administration. One hour thoracic SPECT (123)I-MIBG images were also obtained. **Results:** Cell homing to the myocardium was detected in all three patients. SPECT Thallium scintigraphy showed heterogeneous and different degrees of perfusion defects among the three patients. Improvement of cardiac neuronal uptake of (123)I-MIBG based on an increase of the heart-to-mediastinum uptake ratio was observed in two patients (A and C) and a decrease in patient B after stem cell therapy, while the washout rate was modestly decreased when compared to the values before autologous cell infusion in all patients. Apical and inferior uptake defects were maintained in the (123)I-MIBG SPECT images before and after treatment in two patients and apical defect was improved in patient C. Anterior and lateral defects disappeared after therapy in patients A and C. There was little increase in left ventricular ejection fraction estimated by echocardiogram in patients A and C. However Left Ventricular Ejection Fraction (LVEF) remained with same value before treatment in patient B. **Conclusion:** ABMN cells homing occurred to the chagasic myocardium. Cell biodistribution results in correlation with perfusion defects and (123)I-MIBG scintigraphy suggest that improvement in cardiac sympathetic activity at the ventricular level occurs early in Chagas' cardiomyopathy even before left ventricular function increased. We speculate that the beneficial effect of ABMN cell therapy may be due to the repair of the cardiac autonomic adrenergic system of the chagasic patient.

0136

Cardiac palpitations in menopausal women due to non-sustained right atrial tachycardia (NSRAT)

E. Sclarovsky[1]. *[1]Sackler School of Medicine, Tel Aviv University, Israel. Procardia, Maccabi Health Center, Tel Aviv, Israel*

Cardiac palpitation is one of the most frequent symptoms of menopausal syndrome; the cause is not well established. In a previous study we have shown that non- sustained atrial tachycardia (NSAT) is the most important cause of cardiac palpitation in menopausal women. Purpose: to localize the origin of NSAT and describe its electrocardiographic, clinical and prognostic significance. **Methods:** we studied 30 consecutive women with NSAT (out of 90) without structural heart disease (SHD) by 12 lead Holter System (Mortara Device) during 24 hrs, compared to 14 men with NSAT (out of 210) without SHD. Definition:NSAT: irregular atrial tachycardia (rate > 100 bpm), self-limited (>3 and <60 bpm). NSRAT:right NSAT with P waves having the same morphology in all 12 leads as the normal sinus beat. Arrhythmias were recorded continuously from onset to the end. **Results:**

RSRAT	WOMEN 29/30(95%)	MEN 3/14 (20%)
AGE		
<49	0	2
50–60	18	0
61–72	12	1
SYMPTOMS		
palpitations	28/30	3/3
dyspnea	2/30	0/3
atrial fibrillation	7/30	0/3

Conclusion: 1) The superior part of the right atrium is the origin of NSAT; 2) NSRAT is a manifestation prevailing in menopausal women without SHD; 3) NSRAT is probably the most frequent cause of cardiac palpitations; 4) One third of these patients evolve to atrial fibrillation

0137

Transendocardial Autologous Bone Marrow in Chronic Myocardial Infarction using a Helical Needle Catheter, Two Year Follow-up in an Open-Label, Non-Randomized, Pilot Study (the TABMMI study)

L. M. De La Fuente[1–2], S. H. Stertzer[3], E. Peñaloza[1–2], J. Argentieri[1–2], J. Miano[1–2], B. Koziner[1–2], C. Bilos[1–2], L. Battaglia[4], J. Stertzer[5], P. A. Altman[5]. *[1]InstitutoArgentino de Diagnóstico y Tratamiento, Buenos Aires, Argentina [2]Clinica Suizo Argentina, Buenos Aires, Argentina [3]Stanford University, Stanford, CA [4]Cell Prep SA, Buenos Aires, Argentina [5]BioCardia, South San Francisco, CA*

Aims: Cell therapy has shown benefit in preclinical and clinical studies, although debate continues on the mechanism of action and the most appropriate methods for performing such therapies. We assessed the hypothesis that helical needle transendocardial delivery of autologous bone marrow (ABM) mononuclear cells around regions of hypo or akinesia in chronic post-myocardial infarction (MI) patients would be safe and possibly improve ejection fraction (EF). **Methods:** 17 stable post-MI ischemic heart failure patients with an EF <40% were enrolled. ABM cells were aspirated from the iliac crest and the ABM mononuclear cells were delivered percutaneously with a transendocardial helical needle catheter. 2D echo left ventricle EF measurements, 24 hour Holter, and exercise tolerance testing were performed at baseline, day of procedure, 1 and 12 weeks, 6, 12, and 24 months. **Results:** In the first ten patients, 86 million cells were injected into 7.1±3.1 sites around the infarct to target the peri-infarct zones. In the next seven patients 100 million cells were delivered to 10 sites similarly selected. There were no adverse events associated with the catheter based cell transplantation procedure in any of 17 patients treated to date. For the first ten patients, baseline EF (35.2±4.6 %) rose in a statistically significant fashion at each time points: 6 months (40.8±4.5, $p=0.003$), 12 months (42.3±5.1, $p=0.0001$) and 24 months (42.3 ±6.1, at 12 months, $p = 0.0001$). **Conclusion:** ABM cells delivered with the helical needle transendocardial catheter was safe in this small uncontrolled study in patients with chronic MI. Increased ejection fraction and other positive data trends support continued development of this therapeutic strategy in larger controlled trials.