mine whether treatment with recombinant (ApoM) would restore the impaired endothelium-dependent vasodilatation in these mice. Untreated ApoE KO mice, fed a high-cholesterol diet, were sacrificed at 25 (ApoE25, n = 5) or 30 weeks (ApoE30, n = 6). Treated mice received 20 (ApoM 20, n = 9) or 80 mg/kg/dose (ApoM 80, n = 10) of ApoM complexed with the phospholipid carrier DPPC, or DPPC alone (n = 3) intravenously on alternate days from 25 to 30 weeks. C57BL/6J mice (25- and 30-wk old, both n = 5) were used as wild-type (WT) control. Vascular responses to acetylcholine (Ach, 1 μM) were examined in pressurized aortas (1.5 ± 0.1 mm; 80 mmHg) perfused in vitro. Changes in diameter were measured, and responses were expressed as % change in diameter (mean ± SEM) of preconstricted arteries.

WT (25 wk)	WT (30 wk)	ApoE25	ApoE30	ApoM (20)	ApoM (80)	DPPC
85 ± 6%	86 ± 2%	37 ± 8%*	20 ± 6%*†	50 ± 11%‡	73 ± 4%*†	58 ± 11%‡

*p < 0.05 vs WT; †p < 0.001 vs WT; ‡p < 0.01 vs ApoE 30 wk; ANOVA

Conclusion: These data demonstrate that in this genetic model of atherosclerosis, treatment with recombinant ApoM markedly attenuates impairment of endothelium-dependent vasodilator responses.

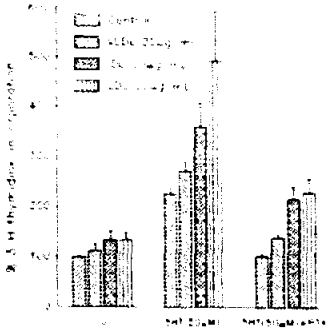
11:45

806-6 β-Lipoproteins From Hypercholesterolemic Rabbits Markedly Potentiate the Mitogenic Effect of Serotonin on Vascular Smooth Muscle Cells

S. Koba, R. Pakala, T. Katagiri, C.R. Benedict. *Univ of Texas, Houston, TX, USA*

Background: Previous studies have shown that very low density, iso density and low density lipoproteins (VLDL, IDL and LDL) from hyperlipidemic plasma are more atherogenic than those from normal plasma. Since platelet aggregation at sites of atherosclerotic injury exposes the cells to high concentrations of serotonin (5HT), a known mitogen for vascular smooth muscle cells (VSMC), we examined whether VLDL, IDL or LDL from plasma of 1% cholesterol-fed rabbits can potentiate the mitogenic effect of 5HT on VSMC.

Methods: Growth arrested primary rabbit VSMC were incubated with different concentrations of VLDL, IDL or LDL in the presence or absence of pertussis toxin (PTX) (10 ng/mL) for 24 hrs followed by incubation with 5HT for 24 hrs. ^{3}H-thymidine incorporation into DNA was then measured.



Results: There was a synergistic interaction between β-lipoproteins and 5HT on VSMC proliferation. PTX reversed the mitogenic effect of 5HT, but not that of β-lipoproteins.

Conclusion: These results suggest that even low concentration of β-lipoproteins from hypercholesterolemic plasma may significantly potentiate the mitogenic effect of 5HT released by aggregating platelets at sites of vascular damage.

807 Catheter Ablation of Atrial Fibrillation and Atrial Flutter: Clinical Results

Monday, March 30, 1998, 10:30 a.m.–Noon
Georgia World Congress Center, Room 257W

10:30

807-1 Initial Follow-up Report of Transcatheter Maze Procedure for Treating Patients With Atrial Fibrillation

C. Pappone, S. Shpun, F. Lamberti, G. Vicedomini, M.L. Loricchio, S.L. Chierchia, S. Ben-Haim. *IRCCS H San Raffaele, Milano, Italy*

Transcatheter "Maze" procedure was performed in patients with paroxysmal atrial fibrillation, using the CARTO™ non-fluoroscopic navigation system.

Methods: 15 patients (11 M/4 F mean 46.1 years) underwent mapping of both atria during pacing from the distal coronary sinus. The left atrium was accessed through a transeptal approach. Radiofrequency (RF) catheter ablation (4 mm tip, NAVI-STAR) were applied following the mapping procedure. In the left atrium the ablation line encircled the superior pulmonary veins and was connected to the Mitral annulus, while three lines (intercaval, isthmal, antero-septal) were deployed in the right atrium. Patients had a history of 9.2 years of atrial fibrillation with a mean of 4 episodes per week, for an average duration of 16 hours (range 2–24).

Results: The mean length of the left atrial lesions was 216 ± 53 mm, with 65 ± 17 RF pulses. In the right atrium the length of the lines was 161 ± 66 mm with 34 ± 7 RF pulses. Atrial electrical transport was restored in all patients. After a mean follow-up of 16 weeks (range 5–26), sinus rhythm was restored in 11 patients. Two other patients are in sinus rhythm using drugs, while two are still in atrial fibrillation, but with a much less frequency and duration of episodes.

Conclusion: The transcatheter maze procedure is reproducible and safe with acceptable initial success rate.

10:45

807-2 Defibrillation Guided Mapping and Radiofrequency Ablation of Focal Atrial Fibrillation

C.-P. Lau, H.-F. Tse, G.M. Ayers[1]. *University of Hong Kong, Queen Mary Hospital, Hong Kong, China; [1]InControl, Redmond, USA*

Recent studies demonstrated that atrial fibrillation [AF] may have a focal origin due to a single rapidly discharging focus, although reliable mapping is dependent on the presence of frequent self-terminating runs of AF or an initiating atrial ectopics, and cannot be applied in patients who developed AF during the procedure. We hypothesize that transvenous atrial defibrillation [TADF] can be used as a tool to map the initiating focus in recurrent AF.

Methods: TADF were performed by using 2 decapolar catheter positioned in right atrium [RA] and coronary sinus [CS] in 12 patients [pts] with chronic AF [CAF] and 10 pts with paroxysmal AF [PAF] untreated with antiarrhythmic drugs. Simultaneously bipolar electrograms were recorded from RA (anterolateral wall and septum), CS and His region. Left atrial (LA) mapping via transeptal puncture was also performed in pts with recurrent AF. Temperature guided RF ablation was applied to AF foci with earliest atrial activation during that re-initiated AF.

Results: Recurrent AF after TADF was observed in 5 pts (23%) (2 CAF & 4 PAF; 5 M, 1 F) with a mean age of 33 ± 4 yrs. None of them have structural heart disease. Consistent earliest atrial electrograms with various coupling intervals during onset of AF were recorded in mid CS (n = 2) or distal CS (n = 3). LA mapping showed earliest atrial electrograms with centrifugal activation pattern at right superior pulmonary vein [PV] (n = 2), left superior PV (n = 2) or left inferior PV (n = 1). RF energy (mean RF pulses: 14 ± 8) was delivered to these sites with complete and partial successful elimination of AF recurrence in 3 and 2 pts resp. Transient termination of AF was observed in 2 pts during RF ablation. During a mean follow-up of 3 months, 3 pts had no AF recurrent and 1 pt had significant improvement.

Conclusions: 1) A subgroup of young AF pts have a focal source of AF that appears to be responible for early reinitiation of AF. 2) TADF guided mapping and RF ablation is a useful method for curative therapy in pts with focal AF.

11:00

807-3 Simplified Strategy for Atrial Flutter Ablation Using a Single Electrode Catheter for Detection of Functional Block Within the Posterior Isthmus

S. Willems, C. Weiss, M. Hoffmann, T. Meinertz. *University Hospital Eppendorf, Hamburg, Germany*

Background: Catheter ablation orientated on the induction of a functional intraatrial block within the posterior isthmus (PI) of the tricuspid annulus has been shown to effectively abolish atrial flutter (Aflut). In order to improve and simplify the current technique we explored a novel strategy based on right atrial (RA) and coronary sinus (CS) mapping using a single transfemoral electrode catheter.

Methods: A 7-F catheter (Medtronic/Cardiorhythm, USA) composed of two segments with 20 electrodes was used for RA and CS stimulation and activation mapping including the PI. Multiple steering mechanisms allowing intubation and positioning of the distal part within the CS were incorporated into the electrode catheter.

Results: 20 pts. referred for radiofrequency current (RFC) ablation of common type Aflut. were included. Adequat positioning of the mapping catheter was achieved via a transfemoral approach in all pts. after 8.2 ± 4.2 min providing stable electrogram recordings during the procedure. The single catheter mapping technique detected significant RFC-induced (median: 17,