sitivity of 58% and specificity of 91% for identifying lesion type B2+C by ACC/AHA guide line. Conclusion: Direction and velocity of baseline coronary flow using transthoracic Doppler echocardiography provide clinically valuable informations about the condition of coronary artery. Especially, slow flow predicts the pathologic flow dynamics of coronary arteries.

POSTER SESSION

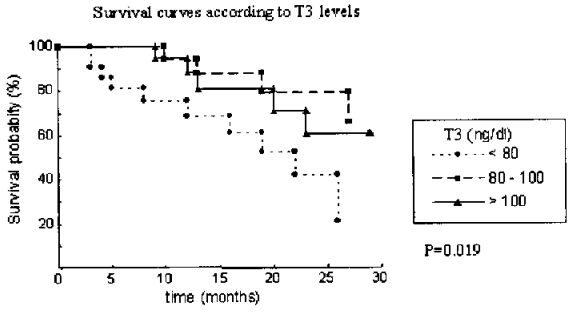
1201 Hormones and Markers of Cardiovascular Risk

Tuesday, March 19, 2002, 3:00 p.m.-5:00 p.m.
Georgia World Congress Center, Hall G
Presentation Hour: 3:00 p.m.-4:00 p.m.

1201-79 Long-Term Prognostic Value of Triiodothyronine Concentration in Elderly Patients With Stable Heart Failure

Jairo Rays, Mauricio Wajngarten, Otavio E. Gebara, Amit Nussbacher, Joao Batista Serro Azul, Humberto Pierri, *Heart Institute, São Paulo, Brazil.*

Background : Heart Failure (HF) is very prevalent in elderly patients. Low total triiodothyronine (T3), with normal free thyroxine (FT4) and thyroid stimulating hormone (TSH) concentrations is frequent and has prognostic value in severely ill patients. However, this hormonal milieu has not been studied in elderly patients with stable HF. Objective: To investigate the prognostic value of T3 concentration in elderly patients with stable HF and without thyroid disease. Methods : We evaluated 69 elderly patients with stable NYHA class II-III HF, with FT4 and TSH within normal range. Patients were followed by an average of 14±8 months and had T3 concentration analyzed. 44 age matched subjects without ventricular dysfunction formed the control group. Results : HF patients had significantly lower T3 concentration than controls (89±23 vs 101±16 ng/dl, p=0.0098). Among HF patients that died, T3 concentration was lower than of those who survived (79±22 vs 93±23 ng/dl, p=0.03). Furthermore, mortality was higher in patients with levels of T3 lower than 80ng/dl (figure). The adjusted odds-ratio for cardiovascular events (hospitalization and/or death) was 9.8 (95% CI 2.2 to 43.0; p=0.004) for patients with T3 concentration lower than 80ng/dl versus those with T3 between 80 and 100 ng/dl. Conclusion : In elderly patients with stable HF and without thyroid disease, T3 concentration lower than 80ng/dl is associated with worse prognosis. T3 values should be included in the routine evaluation of this population.



1201-80 The Predictive Value of Combinations of Different Levels of Brain Natriuretic Peptide and Norepinephrine in the Val-HeFT Trial

Inderjit S. Anand, Roberto Latini, Serge Masson, Dianne Judd, Aldo P. Maggioni, Robert Glazer, Tom Chiang, Philippe Lechat, Gianni Tognoni, Jay N. Cohn, on the behalf of the Val-HeFT Investigators, *VA Medical Center and University of Minnesota, Minneapolis, Minnesota, Istituto di Ricerche Farmacologiche, Milan, Italy.*

Background: Plasma brain natriuretic peptide (BNP) and plasma norepinephrine (NE) are important markers of the severity and prognosis of heart failure (HF). Whether any combination of BNP and NE has additional prognostic value has never been reported. **Methods and Results:** The Val-HeFT trial evaluated the efficacy of the angiotensin receptor blocker valsartan in 5010 patients with HF, and measured BNP and NE at baseline. Patients were stratified based on background beta-blocker (BB) therapy. 93% patients were receiving ACE-I and 35 % BB at baseline. BNP and NE (both in pg/mL) were measured in core labs. The mortality risk was calculated in various combinations depending on the median value of BNP (97 pg/mL) and NE (394 pg/mL), with BNP and NE defined as high (≥) or low (<) for values above and below the median. As expected, high values of BNP or NE were associated with a significantly higher mortality. The risk ratios for various combinations of BNP and NE in order of magnitude are shown in the Table. **Conclusions:** Whereas both plasma BNP and NE are significant prognostic markers in HF, plasma BNP is the stronger of the two. High NE contributes greater prognostic value in the presence of high than low BNP.

*RR from Cox proportional hazard model; **p-value calculated from log rank dest

Subgroup Comparison	Group 1 (n)	Group 2 (n)	Risk Ratio*	95 % C.I.	p-value**
≥BNP vs <BNP	2171	2134	2.08	1.79, 2.42	<0.0001
≥NE vs <NE	2151	2150	1.48	1.28, 1.71	<0.0001
≥BNP + >NE vs <BNP + <NE	1223	1206	2.79	2.25, 3.47	<0.0001
≥BNP + <NE vs <BNP + <NE	935	1206	1.93	1.54, 2.43	<0.0001
<BNP + ≥NE vs <BNP + <NE	920	1206	1.27	0.99, 1.63	0.0056

1201-81 N-Terminal Pro Brain Natriuretic Peptide (NT-proBNP) Predicts Left Ventricular Function and Mortality in Hemodialysis Patients but Not Cardiac Death: A Two-Year Outcome Study

Joseph P. Longhitano, William L. Henrich, Paul D. Light, Eric Tiblier, Heidi Sperger, Mathew M. Smiley, John Badalamenti, Juergen Trawinski, Christopher R. deFilippi, *University of Maryland, Baltimore, Maryland, University of Texas Medical Branch, Galveston, Texas.*

NT-proBNP is a stable marker of left ventricular (LV) dysfunction in the general population, but its predictive value in patients on chronic hemodialysis (HD), a group with chronic volume overload as well as a large burden of ischemic heart disease and cardiovascular death, is unknown. This prospective study of 224 HD patients was designed to learn the predictive value of NT-proBNP for death, LV function and the magnitude of CAD. HD pts from 5 HD centers (age 60±15 years, 54% male, 48% diabetic) in whom NT-proBNP levels (mean of two values, one month apart, normal <70 pmol/L, Roche Diagnostics), LVEF and LV mass (measured by echocardiography in 155 of 224 pts) were quantified. For the 77 pts who died during the 2 year follow-up, NT-proBNP levels were significantly higher than in those who lived (7027±8660 vs. 4613±5921, p=0.015). For the 24 pts with LVEF≤ 0.40, NT-proBNP levels were higher than pts with LVEF >0.40 (9956±11420 vs. 4853±5940, p=0.0013). The **Table** depicts NT-proBNP by quartiles, and shows the corresponding mortality (%), depressed LVEF (%), mean LV mass, multivessel CAD (%) and cardiac death or non-fatal MI (%). Overall mortality, LV dysfunction and LV mass increased with rising NT-proBNP levels but NT-proBNP was not predictive of multivessel CAD or cardiac death.

We conclude that NT-proBNP levels are high in most HD pts. and that levels >2800 pmol/L are associated with a marked decrease in LVEF and risk of all cause mortality in a large percentage of pts but are not a marker of atherosclerotic burden or CV death.

	Quartile 1	Quartile 2	Quartile 3	Quartile 4	p value for trend
NT-proBNP (pmol/L)	87-1246	1247-2766	2792-6698	6730-55164	
Death (% pts)	23.2	23.2	46.4	44.6	0.006
LVEF≤ 0.40 (% pts)	2.6	9.8	22.6	27.3	0.008
LV mass (g/m^2)	130±31	133±31	137±44	160±39	0.002
Multivessel CAD (% pts)	42.1	18.1	5.6	47.6	0.790
CV Death or Non-Fatal MI (% pts)	16.1	17.9	16.1	22.6	0.450

1201-82 Effect of Combined Hormone Replacement Therapy on Thrombotic and Fibrinolytic Potentials and Lp(a) Levels in Elderly Women

Otavio C. Gebara, Margareth Venturinell, Jose M. Aldrighi, Nubia Vieira, Amit Nussbacher, Humberto Pierri, Serro-Azul João, Elbio D'Amico, Mauricio Wajngarten, Giuseppe Rosano, Jose A. Ramires, *Heart Institute from the Medical School University of São Paulo, Sao Paulo, Brazil, Instituto San Raffaelie, Rome, Italy.*

Background: Elderly women are are potential candidates for postmenopausal hormone replacement therapy (HRT). This therapy, however, may increase their risk of thrombotic cardiovascular events. To date, the impact of HRT on coagulation, fibrinolysis, and levels of lipoprotein (a) [Lp(a)] is not fully understood in this population.

Methods: In a double-blind, placebo-controlled study, 17 women older than 65 years (mean age 70±4 yrs),without cardiovascular disease,received for a period of 60 days either HRT (oral conjugated estrogens 0,625 mg/d plus medroxyprogesterone acetate 2,5mg/d) or placebo. At the end of each treatment phase, we measured variables that express a pro-thrombotic state (fibrinogen, factor VII, vonWillebrand factor [vWF], antithrombin III [ATIII], Protein C), or that express activation of coagulation (thrombin-antithrombin complex[TAT] and fragment 1+2[F_{1+2}]), and variables that show activation of fibrinolysis (t-PA activity [t-PAac], t-PA antigen, t-PA inhibitor [PAI-1], Lp(a) and D-dimer).

Conclusion: HRT in elderly women increased markers of thrombosis and increased the fibrinolytic potential. The clinical significance of these opposing effects should be evaluated in prospective studies and may be important in better selecting candidates for long-term treatment.

Results:	HRT	Placebo	P
Fibrinogen (mg/dl)	326+79	315+64	0.618
Factor VII (%)	136+45	151+39	0.250
vWF (%)	117+13	116+15	0.908
ATIII (%)	143+35	139+30	0.672
Protein C (%)	116+36	111+31	0.608
TAT (mg/L)	4.7+2.1	3.4+0.9	0.016
F1+2 (nmol/L)	3.0+2.8	1.4+0.6	0.018
t-PAac (UI/mL)	43+13	34+9	0.001
t-PAag (ng/ml)	5.6+1.6	6.5+1.7	0.014
PAI-1 (ng/ml)	24.0+6.9	25.6+9.1	0.775
D-dimer (ng/ml)	85+62	57+37	0.023
Lp(a)(ng/ml)	19.1+14.5	29.0+22	0.025