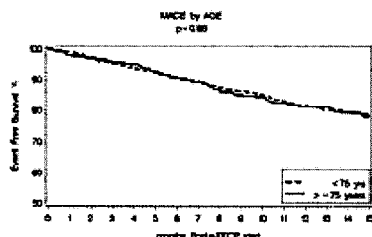


(41% vs 32%, $p<0.01$) and non-cardiac vascular disease (38% vs 26%, $p<0.001$). There was no difference between the groups in gender, angina severity, or ejection fraction (46%). At completion of treatment most patients, young and old, had angina reduction of ≥ 1 Canadian Cardiovascular Society class with angina episodes and nitroglycerin use significantly reduced as well. At one year, 81% reported maintenance of symptom improvement and major adverse cardiac event-free survival was comparable in both groups ($p=0.86$).

Conclusion: Patients seek medical care to live longer or feel better. EECF offers elderly patients, even those with extensive cardiovascular disease, a low-risk intervention that significantly reduces anginal symptoms with cardiac event-free survival comparable to younger patients with similar symptoms.



1162-87

Coronary Interventions in 1,070 Consecutive Octogenarians: Complication Rates in Diabetic Versus Nondiabetic Patients

Josef Niebauer, Sebastian Sixt, Fuchun Zhang, Jiangtao Yu, Peter Sick, Holger Thiele, Bernward Lauer, Gerhard Schuler, Heart Center - University of Leipzig, Leipzig, Germany

Background: Octogenarians with Diabetes mellitus type 2 are perceived as a high risk population for procedure-related complications. Since only few studies reported complication rates in this population in the era of coronary stenting, we set out to assess their risk in a large cohort of patients.

Methods: We studied 1070 consecutive patients >80 years (82.6 ± 2.6 years; 526 males, 544 females; 396 with Diabetes (DM), 674 without Diabetes (Non-DM)), who underwent cardiac catheterization between January 1995 and July 2000.

Results: Age (DM: 82.4 ± 2.4 vs. Non-DM: 82.8 ± 2.8 years; $p=n.s.$) and number of acute myocardial infarctions (MI) (DM: 27%, Non-DM: 23%; $p=n.s.$) were similar in both groups. There were more women in the DM (57%) than in the Non-DM group (44%; $p<0.001$). Diabetics had more 3-vessel disease (DM: 35% vs Non-DM: 29%; $p<0.02$); there were significantly more balloon angioplasties performed in non-diabetic patients (DM: 27% vs Non-DM: 43%; $p<0.001$), whereas a higher, but non-significant number of diabetic patients underwent bypass surgery (DM: 36% vs Non-DM: 30%; $p=0.16$). A total of 32 patients (3%) died (DM: $n=6$; non-DM: $n=26$); 5 deaths occurred during procedures (3 patients died during rescue PTCA, 2 during emergency surgery), 16 patients were already admitted in cardiogenic shock, 6 died due to complications associated with acute myocardial infarctions (e.g. ventricular septal defect), 2 due to decompensated aortic stenoses, 2 patients due to pulmonary embolism, 1 due to aortic dissection type A. At the puncture site 39 complications occurred (DM 3% vs. non-DM 4%, $p=n.s.$)

Conclusions: Despite the notion that it is the diabetic patients among the octogenarians who have the highest complication rates, this study shows in a large cohort of patients that their complication rates are well comparable to non-diabetic patients, and would thus not warrant a more conservative treatment strategy in these patients.

1162-88

High Endogenous Estrogen Levels Are Predictive of Increased Carotid Intimal: Medial Thickness in Elderly Postmenopausal Women

Barry H. McKeown, Richard L. Prince, Amanda Devine, John P. Beilby, Brendan M. McQuillan, Joseph Hung, Peter L. Thompson, The Heart Research Institute Sir Charles Gairdner Hospital, Perth, Australia, The University of Western Australia, Perth, Australia

Background: Little is known about the relationship between endogenous estrogen and atherosclerosis in postmenopausal women. We have examined the association between estrogen levels and carotid intimal-medial thickness (IMT) in a population-based cohort study of elderly women who were not taking oral estrogen replacement (Calcium Intake fracture Outcome Study - CAIFOS). **Methods:** We assessed 1130 CAIFOS subjects aged 75.2 ± 2.7 years (mean \pm standard deviation) at baseline for cardiovascular risk factors and estrogen levels and at one year for plasma homocysteine and glycated haemoglobin. Free Estradiol Index (FEI - molar ratio of plasma estradiol to sex hormone binding globulin $\times 1000$) was used as the measure of endogenous estrogen. Three years after baseline these women were assessed for carotid IMT using bilateral carotid B-mode ultrasound. **Results:** At baseline 12.2% of these subjects had a history of cardiovascular disease (ischaemic heart disease, peripheral vascular disease or stroke). Women with greater than the median level of FEI (47.0) had increased mean IMT compared to those with lower levels (0.79mm vs 0.77mm , $p=0.007$). The following factors also had a positive univariate association with IMT: age ($p<0.0001$), pulse pressure ($p<0.0001$), body mass index ($p=0.01$), a history of smoking ($p=0.01$) and glycated haemoglobin ($p=0.04$). In multivariate analysis, the following variables were independently predictive of increased IMT: increased pulse pressure ($p<0.0001$), increased age ($p<0.0001$), a history of smoking ($p=0.003$) and increased FEI (a level greater than the median $p=0.008$).

Conclusion: Our study shows that an increased level of endogenous estrogen is predictive of carotid atherosclerosis and may therefore be important in increasing atherosclerotic risk in postmenopausal women.

ORAL CONTRIBUTIONS

844 Idiopathic Dilated Cardiomyopathy: Basic and Clinical

Tuesday, April 01, 2003, 10:30 a.m.-Noon
McCormick Place, Room S402

10:30 a.m.

844-1

Beta2-Adrenergic Receptor Polymorphisms Predict Heart Failure Progression in Idiopathic Dilated Cardiomyopathy

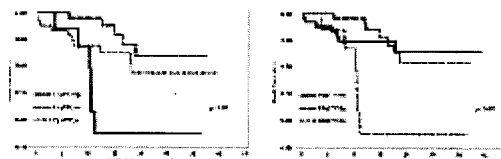
Cinzia Forte, Nicoletta Resta, Sandro Sorrentino, Pietro Guida, Andrea Manghisi, Viviana De Luca, Roberta Romito, Massimo Iacoviello, Francesco Massari, Brian Rizzon, Ginevra Guanti, Paolo Rizzon, Mariavittoria Pitzalis, Bari, Italy

Background: The stimulation of β_2 -adrenergic receptor (β_2 -AR) plays a crucial role in maintaining catecholamine-mediated inotropism in idiopathic dilated cardiomyopathy (IDC). Therefore, β_2 -AR polymorphic variants could influence prognosis in patients with DCM.

Patients and Methods: To test this hypothesis, we prospectively analysed 160 consecutive unrelated patients (mean age 49 ± 14 years, 121 males) with DCM (WHO criteria), while receiving optimal treatment. All the patients were characterised for the 5' leader cistron (5'LC)-Arg19Cys, Arg16Gly, Gln27Glu, and Thr164Ile polymorphisms of the β_2 -AR on the basis of PCR amplified DNA using RFLP or SSCP analysis. The progression towards HF (worsening in clinical conditions leading to one of the following events: hospitalisation, cardiac transplantation, death) was considered as end point.

Results: After a median follow-up of 18 months, 11 patients were hospitalised for congestive HF, three underwent cardiac transplantation and seven died. Kaplan-Meier survival curves showed that the 5'LC-Arg19/Glu27 haplotype was significantly related to events ($p<0.05$, figure). By Cox multivariate analysis, the 5'LC-Arg19/Glu27 haplotype was associated with HF progression (RR=4.09, $p<0.01$), also after adjustment for age, NYHA functional class, and left ventricular ejection fraction (RR=4.05, $p=0.01$).

Conclusions: Among DCM patients, those showing the 5'LC-Arg19/Glu27 haplotype of the β_2 -AR show the worst progression of HF at 18 months of follow-up.



10:45 a.m.

844-2

Circulating Tumor Necrosis Factor-Alpha and Matrix Metalloproteinase Activities in Patients With Idiopathic Dilated Cardiomyopathy: Effects of Beta-Blocker on Cardiac Matrix Remodeling

Tomoaki Ohtsuka, Mareomi Hamada, Yuji Shigematsu, Yuji Hara, Akiyoshi Ogimoto, Tsuyoshi Matsunaka, Jun Suzuki, Katsuji Inoue, Kiyotaka Ohshima, Norikatsu Morioka, Akira Kurata, Jitsuo Higaki, Ehime University School of Medicine, Ehime, Japan

Background: Matrix metalloproteinases (MMPs) contribute to myocardial matrix degradation during the remodeling process in the failing heart. Recently, increased myocardial MMP activity has been reported to occur in clinical forms of dilated cardiomyopathy. Tumor necrosis factor (TNF)-alpha is an important regulator of MMP gene expression. This study was designed to clarify the relationship between circulating TNF-alpha and MMP activities in patients with idiopathic dilated cardiomyopathy (IDC) and to evaluate the effect of beta-blocker on circulating MMP activity in IDC. **Methods:** We studied 34 patients with IDC and 10 healthy control subjects. Serum levels of TNF-alpha, MMP-1, MMP-3 and MMP-9 were measured using enzyme-linked immunosorbent assay. Plasma levels of norepinephrine and brain natriuretic peptide (BNP) were also measured. In 20 patients who had been treated with angiotensin II type 1 receptor blockers, carvedilol was administered in addition to the combination therapy. **Results:** Serum levels of TNF-alpha, MMP-1, MMP-3 and MMP-9 were significantly higher in all patients with IDC than in control subjects ($P<0.05$ for all). There was a significant positive correlation between TNF-alpha and MMP-9 levels ($r=0.764$, $P=0.01$). The MMP-9 levels were also positively correlated with norepinephrine levels ($r=0.750$, $P=0.005$). In addition, there was a positive correlation between MMP-1 and BNP levels ($r=0.647$, $P=0.022$). In patients treated with carvedilol, the high levels of MMP-1, MMP-9 and TNF-alpha were significantly decreased during the treatment ($P<0.05$ for all), although MMP-3 levels remained unchanged. **Conclusion:** Circulating TNF-alpha is closely related to MMP activity in IDC.