1128-122 **Prediction of Mortality Risk in the Very Old: Incremental Value of Inflammatory Mediators and Surrogate Markers of Atherosclerosis**

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Context: Risk functions to estimate the risk of cardiovascular events or all-cause mortality have largely been derived from populations in which old and very old subjects were underrepresented, and to which they might not be applicable. The proportion of elderly subjects in westernized societies is rapidly increasing.
Objective: To estimate the independent and incremental prognostic utility of inflammation and atherosclerosis markers in the prediction of all-cause and cardiovascular mortality in elderly men, compared to existing risk functions.
Design: Prospective population-based cohort study with 4 years of follow-up.
Setting: General community.
Subjects and Methods: Conventional cardiovascular risk factors were documented in 396 independently living elderly men (mean age±SD, 78±4 years). C-reactive protein (CRP) and interleukin-6 (IL-6) levels were measured in plasma. Carotid artery intima-media thickness and number of carotid plaques were assessed by B-mode ultrasound. Risk functions were estimated using proportional hazards regression analysis.
Main outcome measure: All-cause and cardiovascular mortality.
Results: The Framingham Risk Score and the PROCAM and the Dutch Risk Functions did not or only poorly predict mortality risk, similar or worse than a model using age alone. Increasing tertiles of CRP, IL-6, and number of plaques, but not intima-media thickness, were independently associated with all-cause and cardiovascular mortality. Using information on age, carotid plaques, IL-6, and CRP yielded good discriminatory power for all-cause and cardiovascular mortality: area under the receiver operating characteristic curve (95% confidence interval), 0.76 (0.70-0.82) and 0.74 (0.68-0.80), respectively. Combined use of only IL-6 and plaque burden improved identification of subjects with low and high mortality risk.
Conclusions: Conventional risk scores perform unsatisfactorily in the old and very old. In this age group, IL-6 and number of carotid plaques are powerful predictors of mortality risk in the years to come. The value of these predictors in the practice of risk identification requires further validation.

1128-123 **The Effect of Established Cardiovascular Risk Factors and Endogenous Estrogen on High Sensitivity C-Reactive Protein in Elderly Women**

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Background
There is little data examining the effect of endogenous estrogen and established cardiovascular risk factors on high sensitivity C-reactive protein (hsCRP) in post-menopausal women. We examined these associations in a population-based study of elderly women who were not taking hormone replacement therapy (Calcium Intake Fracure Outcome Study).
Methods
In a cross-sectional study design we investigated 1149 women for cardiovascular risk factors (age, blood pressure, LDL and HDL cholesterol, triglycerides, glycosylated hemoglobin A1C, body mass index (BMI), hs CRP, homocysteine, history of diabetes and smoking), medication use (beta-blockers, statins, angiotensin converting enzyme inhibitors and anti-platelet agents) and estrogen levels. Free estradiol index (FEI - molar ratio of plasma estradiol to sex hormone binding globulin x 1000) was used as the measure of endogenous estrogen. High sensitivity CRP was measured in 100 women (25 in each quartile of FEI) and women with a hsCRP level less than or equal to 10mg/L (n=92, mean age 75.6 years +/- SD 2.8 years) were included in the analysis.
Results
The prevalence of cardiovascular disease (ischemic heart disease, peripheral disease or stroke) was 6.5%. The mean hsCRP was 2.89mg/L +/- SD 1.87mg/L. There was a moderate positive correlation between FEI and hsCRP (Spearman Rho Rank r=0.47, p<0.0001). Other factors that had a significant univariate association with hsCRP were age (Spearman Rho Rank r=0.21, p=0.04), BMI (Spearman Rho Rank r=0.44, p<0.0001), HDL- cholesterol (Spearman Rho Rank r= -0.22, p=0.04) and use of anti-platelet agents (mean hsCRP for use: 2.26mg/L vs mean hsCRP for non-use: 3.17 mg/L, p=0.03). In a multivariate model that explained 38.1% of the variance of hsCRP, increased FEI was independently predictive of increased hsCRP (p<0.0001). Other factors that were independently predictive of increased hsCRP were increased BMI (p<0.0001) and non-use of anti-platelet agents (p=0.005).
Conclusion
Endogenous estrogen predicts elevated hs-CRP in elderly post-menopausal women independently of cardiovascular risk factors. Is endogenous estrogen pro-inflammatory?

1128-124 **Predictive Validity of Criteria for the Epidemiological Diagnosis of Heart Failure in the Elderly: The Icare Dicomano Study**

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Background. The prevalence of heart failure (HF) increases with aging, yet absolute prevalence estimates vary widely depending on the criteria used for the diagnosis. Assessment of predictive validity of sets of HF diagnostic criteria should consider, and

compare, their ability to predict cardiovascular (CV) events related to HF, such as disability, hospitalizations, and mortality.
Aims. We conducted the present study to compare the ability of 4 sets of epidemiological criteria to predict: incident disability in basic activities of daily living (I-BADL), hospital admissions (HA) related to HF, and CV mortality.
Methods. Data were collected in a longitudinal survey of the entire population aged ≥65 years living in Dicomano, Italy (ICARe Dicomano Study). At baseline (1996), HF was diagnosed with the criteria of the Framingham (Fra), Boston (Bos), and Gothenburg (Got) studies, and the European Society of Cardiology (ESC) criteria. In 1999, vital status was assessed based on City death registry and certificate (ICD-9 coding of the cause of death). I-BADL and the number of HA were evaluated with direct exam of survivors and interview of their primary care physicians.
Results. Of 553 participants, 11.9%, 10.7%, 20.8% and 6.1% were diagnosed with HF, according to Fra, Bos, Got and ESC criteria, respectively. Overall, the diagnosis of HF predicted a higher I-BADL and a larger number of HA in 1999 survivors. Compared to Fra, Got, and ESC criteria, Bos criteria achieved the highest relative risk for I-BADL (RR 4.4, 95% CI 1.6-12.0, p<0.01; adjusted for age, gender, ejection fraction, comorbidity, and psycho-affective status) and the largest F value for HA (HF: 8.5±0.02, non-HF: 6.4±0.01; F=16.4, p<0.01) between HF and non-HF participants. 19 and 28 participants died from CV and non-CV causes, respectively. In adjusted Cox regressions, CV mortality was significantly predicted only when the diagnosis of HF was based on Bos criteria (HR 4.0, 95% CI 1.1-14.2, p=0.032), but not on Fra, Got, and ESC criteria.
Conclusions. Bos criteria are superior to Fra, Got, and ESC criteria for the epidemiological diagnosis of HF in the elderly, because they allow for a better prediction of I-BADL, HA related to HF, and CV mortality.

1128-125 **Calcification of the Fibrous Skeleton of the Base of the Heart, Aortic Valve Sclerosis and Prevalent Cardiovascular Disease in the Elderly: The Cardiovascular Health Study**

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Background and Aims: Fibrocalcific changes of the aortic (AAC) and mitral annuli (MAC) comprising the fibrous skeleton of the base of the heart, and of the aortic valve (aortosclerosis-AVS-) occur with aging. While MAC and AVS were characterized in the elderly, the prevalence of a combination of these conditions as well as their association with cardiovascular disease (CVD) in these individuals was not defined. Methods: We used 2D echo to determine the presence of MAC, AAC and AVS in 3929 participants (mean age 76 ± 5 yrs, 60% women) in the Cardiovascular Heart Study. MAC was present in 1640 (42%), AAC in 1710 (44%), AVS in 2114 (54%) and all three in 662 (17%) of participants. Logistic regression analysis was used to determine their association with prevalent CVD. Results adjusted for age, race, and gender are presented in the table. Adjusted for history of diabetes, hypertension, renal insufficieny, ankle arm index </=0.9, carotid stenosis ≥ 25%, FEV1, and LV mass, MAC was associated with MI, stroke and CHF (OR = 1,39, 95% CI, 1.09, 1.77, OR = 1.54, 95% CI, 1.05, 2.00, and OR = 1.36, 95% CI, 1.00, 1.86 respectively) and AAC was associated with CHF (and OR = 1.37, 95% CI, 1.00, 1.88). All three entities were significantly associated with each other (χ2 p < .001). Conclusions: 1. MAC, AAC, AVS and all three combined have high prevalence in free-living elderly and are associated with each other. 2. While all are associated with prevalent CVD independently of age, gender and race, in highly adjusted models only MAC is associated with CVD.

Calcification Category	Myocardial Infarction N = 415	Stroke N = 223	Angina Pectoris N = 837	CHF N =272
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
MAC	1.70 (1.38, 2.09)	1.84 (1.40, 2.41)	1.29 (1.11, 1.51)	1.69 (1.31, 2.17)
AAC	1.17 (0.95, 1.54)	1.13 (0.86, 1.48)	1.21 (0.03, 1.42)	1.75 (1.34, 2.27)
AVS	1.27 (1.03, 1.57)	1.16 (0.88, 1.53)	1.24 (1.06, 1.45)	1.02 (0.79, 1.31)
MAC, AAC & AVS	1.86 (1.32, 2.62)	1.95 (1.26, 3.03)	1.60 (1.24, 2.07)	2.04 (1.34, 3.09)

1128-126 **Increased Vascular Stiffness and Impaired Ejection Fraction in Older Patients Following First Transmural Myocardial Infarction**

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Background: Older age is associated with increased cardiac morbidity and mortality post myocardial infarction (MI). Arterial stiffening, an important age associated change, increases arterial load on the left ventricle (LV), and may increase LV dysfunction post MI. We evaluated if there is an age associated increase in arterial stiffness post MI that persists despite vasoactive therapies, and if arterial stiffness and age predict decreased LV ejection fraction (EF) post MI. Methods: 98 patients (50: age<60, 48: age≥60) were enrolled 3 to 21 days following first transmural MI, all after angiography and start of aspirin, beta-blockers, and ACE-inhibitors. We assessed LV EF and vascular stiffness by carotid and radial tonometry, echocardiography, and gated blood pool scans. Multiple linear regression analysis was performed on arterial stiffness measures, demographics, angiography, ECG data, and cardiac enzymes, to evaluate predictors of EF. Results: Older age is significantly associated with decreased EF and arterial compliance, and