**Prediction of Mortality Risk in the Very Old: Incremental OR (95% CI)**

1.17 (0.95, 1.54)

1.84 (1.40, 2.41)

The Effect of Established Cardiovascular Risk Factors

1.29 (1.11, 1.51)

1.70 (1.38, 2.09)

1.13 (0.86, 1.48)

Predictive Validity of Criteria for the Epidemiological Diagnosis of Heart Failure in the Elderly: The Icare Dicomo 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 Dicomo, Italy (Icaro Dicomo Study). At baseline (1996), HF was diagnosed with the criteria of the Framingham (Fram), Boston (Bot), and Gothenburg (Got) studies, and the European Society of Cardiology (ESC) criteria. In 1999, vital status was assessed based on County death registry and certificate (ICD-9 coding of the cause of death). HA and the number of HF and non-HF participants 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% were diagnosed with HF, according to Fram, Bot, Got, and ESC criteria, respectively. Overall, the diagnosis of HF performed worse in I-BADL, and a larger number of HA in 1999 survivors. Comparison of Fram, Bot, Got, and ESC criteria, Bot 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 psychosocial status) and the largest F value for HA (HR 8.5±0.02, non-HF: 6.4±0.05; 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 Bot criteria (HR 4.0, 95% CI 1.1-14.2, p=0.032), but not on Bot, Got, and ESC criteria.

Conclusions. Bot criteria are superior to Fram, 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.

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 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 Fracture Outcome Study).

Methods. In a cross-sectional study design we investigated 1149 women for cardiovascular risk factors, inflammatory markers, C-reactive protein (CRP), and estrogen. Inflammatory markers included hsCRP, interleukin-6 (IL-6), and CRP yielded good inter-assay correlation. hsCRP and CRP were expressed as the percentage of 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 present study in the practice of risk identification requires further validation.

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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 (A) and mitral annuli (MAC) comprise the fibrous skeleton of the base of the heart, and of the aortic valve (aortic valve-sclerosis-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, AAV and AVS in 3629 participants (mean age 76 ± 5 yrs, 60% women) in the Cardiovascular Health Study. MAC was present in 1640 (42%), AAV 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. Estimated for age, race, and gender. Adjusted for history of diabetes, hypertension, renal insufficiency, 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 MAC was associated with CHF (OR = 1.37, 95% CI, 1.00, 1.88). All three entities were significantly associated with each other (p < 0.001). Conclusions: 1. MAC, AAV, 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 independent of age, gender and race, in highly adjusted models only MAC is associated with CVD.

Increased Vascular Stiffness and Impaired Ejection Fraction in Older Patients Following First Transmural Myocardial Infarction

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Background: 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 to 21 days following first transmural MI, all after angiography and C-clip angioplasty, beta-blockers, and ACE-inhibitors. We assessed LV EF and vascular stiffness by cardiac 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 function, to evaluate predictors of EF. Results: Older age is significantly associated with decreased EF and arterial compliance, and...