

0.138,  $p=0.064$ ). NT-pro-BNP correlated with mitral valve E/A ratio ( $r=0.243$ ,  $p=0.001$ ) but not isovolumetric relaxation time ( $r=0.044$ , NS) or deceleration time ( $r=-0.044$ , NS). NT-pro-BNP remained correlated to E/A-ratio ( $\beta=0.195$ ,  $p<0.01$ ) with adjustment for circumferential end-systolic stress. However, when taking LV mass and wall stress into account there was only a trend towards a relation between NT-pro-BNP and mitral valve E/A ratio ( $\beta=0.133$ ,  $p=0.071$ ). Change in NT-pro-BNP during 1 year of treatment did not correlate with changes in EFS ( $r=-0.040$ ), MWS ( $r=-0.074$ ), E/A-ratio ( $r=0.008$ ), isovolumic relaxation time ( $r=-0.04$ ) or mitral valve e-point deceleration time ( $r=0.037$ , all NS). **Conclusion:** NT-pro-BNP maybe related to LV contractility and filling independent of LV mass and wall stress in hypertensive patients with ECG LV hypertrophy at baseline. However, there was no hall-stress-independent relation between NT-pro-BNP and LV pump function. Furthermore, change in NT-pro-BNP over time was not related to changes in LV function.

**1038-73 Heart Failure in the Community and in Hospitals: Selection and Survival of Patients in Different Settings**

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The aim of the study was to compare the characteristics and 3-year survival data of patients (Pts) with diagnosis of heart failure (HF) made in the community and in hospitals in the UK. **Methods:** Three populations ( $\geq 45$  years) were studied: HFa, 6478 Pts from the General Practice Research Database (with data from 696884 persons) with new HF diagnosis clearly stated by 525 GPs, according to their clinical judgment; HiiHF, 225 Pts from the Hillingdon study, with new HF diagnosis made by an expert panel of cardiologists, applying the ESC criteria; NetHF, 1929 Pts screened for the Network trial, with HF diagnosis confirmed by hospital cardiologists according to their clinical judgment. Standardized mortality ratio (SMR) at 1-year was calculated using as reference population the 1994 UK age and sex specific death rates (the reference population being 1). **Results:** Incidence rates (cases/1000 person-years) were 9.6 and 8.9 in HFa and 3.7 and 4.7 in HiiHF, in women and men, respectively. NetHF were mostly chronic cases. Proportions of women were 55.5, 47.1 and 37.5 in HFa, HiiHF and NetHF, respectively ( $*p<0.02$ ,  $Ep<0.001$ ,  $\$p<0.01$ ). Mean survival (months-95%CI) was 23.8 (23.4-24.1) for HFa, 21.7 (19.6-23.7) for HiiHF and 31.8 (31.3-32.3) for NetHF ( $*p=0.25$ ,  $\text{£} < 0.001$ ,  $\$ < 0.001$ ). 1-year SMR (95% CI) was 14.7 (13.9-15.7) for HFa, 15.2 (11.1-20.7) for HiiHF and 3.2 (2.4-4.3) for NetHF. Both HFa and HiiHF (incident cases) had an especially high mortality in the first 3 months of follow-up that was not seen in NetHF (chronic cases). **Conclusions:** There is a descending rank order in mean age and proportion of women in HF Pts seen in the community, in hospitals and those screened for trials. Chronic cases, which are usually studied in trials, represent survivors from the high mortality observed in the first 3 months after diagnosis. Both the clinical judgment of GPs and the rigorous application of ESC criteria seem to lead to the detection of severe cases with similar survival in both absolute terms and in shape of the survival curves. (\* indicates HFa vs. HiiHF; £, HFa vs. NetHF; \\$, HiiHF vs. NetHF).

**1038-74 Does the Prevalence of Atrial Fibrillation Vary by Race in Patients With Heart Failure? The Epidemiology, Practice, Outcomes, and Costs of Heart Failure (EPOCH) Study**

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**Background:** The association between heart failure (HF) and atrial fibrillation (AF) is well known but the risk factors predisposing to AF in the setting of HF are not well understood. It has been postulated that among patients with HF, blacks may have a lower prevalence of AF compared with whites, but this has not been clearly defined along with the potential factors that may explain any observed racial difference.

**Methods:** We performed a cross-sectional analysis of the association between race and AF in a random sample of adults hospitalized with HF (July 1999-June 2000). HF was confirmed using Framingham Heart Study criteria. Data on demographic characteristics, comorbid conditions, vital signs at presentation, prior medication use, and left ventricular systolic function status were obtained from medical records and automated databases. Prevalent AF was defined as AF or atrial flutter documented by electrocardiogram during hospitalization and/or by medical history. We assessed the independent relationship between race and AF using multivariable logistic regression.

**Results:** Among 1373 patients (223 blacks, 1150 white) hospitalized with confirmed HF, the prevalence of AF was 34.0% (95% CI: 31.4% to 36.4%). Blacks were more likely than whites to be younger (mean age 67 vs. 74 yrs,  $P<0.001$ ) and to have hypertension (75.3% vs. 62.4%,  $P<0.001$ ) and prior HF (64.6% vs. 54.9%,  $P<0.01$ ). Blacks were also less likely to have a history of coronary disease, hypothyroidism, valve replacement, or revascularization, or to be taking digoxin or a beta-blocker on admission. Blacks had a significantly lower prevalence of AF (19.7%) compared with whites (38.3%,  $P<0.001$ ). After adjustment for risk factors for AF and other potential confounders, blacks had 35% decreased odds of having AF (adjusted odds ratio 0.65, 95% CI: 0.43-0.97) compared with whites.

**Conclusion:** In a large contemporary cohort of adults with heart failure, atrial fibrillation was a common complication but was significantly less common among blacks compared with whites. Racial variation was not explained by differences in traditional risk factors for atrial fibrillation, presumed heart failure etiology or severity, or medical management.

**1038-75 Sex Differences in Heart Failure: Report From a Large Community-Based Cohort**

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**Background:** The extent to which women differ from men with respect to clinical presentation, treatment and outcomes in heart failure (HF) is debated.

**Methods:** We queried a HF registry compiled from consecutive HF admissions to 10 community hospitals. Demographics, clinical characteristics, treatment variables and outcomes were compared by sex.

**Results:** Vital status 6 months after hospital admission was known for 2,508 patients. Of these, 1,304 (56%) were women. Mean functional class at admission and the prevalence of atrial fibrillation and prior HF were equivalent. Women were older (77.1 vs 73.8 years), more often nursing home residents (17 vs 9%) and less often received care from cardiologists (14 vs 20%). Women had higher mean ejection fraction (0.39 vs 0.32) and more often had diastolic HF (52 vs 34%). Ischemic cause of HF was documented less often among women (31 vs 43%). Women had lower mean serum creatinine and hematocrit. Women received catheterization (10 vs 14%), exercise testing (8 vs 11%) and coronary revascularization (4 vs 7%) less often (all  $P<0.05$ ). Other diagnostic studies were performed equally. At discharge women less often received ACE inhibitors (57 vs 63%) and digoxin (49 vs 54%). Hospital stay was longer for women (7.5 vs 6.9 days) (all  $P<0.05$ ). Hospital mortality was equivalent (6.5 vs 6.0%). Women were less likely to die during the 6 months following discharge (15.2 vs 18.4%,  $P=0.03$ ). Thus, crude 6-month mortality trended lower among women (21.3 vs 24.0%,  $P=0.12$ ). Sex was borderline predictive of better survival using the Kaplan-Meier method ( $P=0.11$ ) and a proportional hazards model to account for age and other factors ( $P=0.19$ ). In follow-up, women were slightly less likely to have rehospitalization for HF (24 vs 26%,  $P=0.27$ ) or any cause (42 vs 45%,  $P=0.09$ ). The combined endpoint of death or readmission occurred less often among women (52 vs 57%,  $P=0.02$ ).

**Conclusions:** In this community-based HF cohort, clear sex-related trends emerge. Women are older and more often have diastolic HF. They receive a different standard of care with respect to medications and referral to specialists. In spite of this, women have comparable or better clinical outcomes during and after hospitalization for HF.

**1038-76 Gender-Related Differences in Neurohormonal Plasma Levels**

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**Background:** Age is known to affect plasma concentrations of cardiac neurohormonal markers used in the evaluation of congestive heart failure, but little is known about gender-related effects.

**Methods:** Accordingly, we compared the plasma levels of atrial natriuretic peptide (N-proANF), brain natriuretic peptide (BNP), big endothelin-1 (big ET-1) and angiotensin II (All) in 92 healthy subjects (46 females, age 30 to 70 years; 46 males, age 30 to 69 years). Except for oral contraceptive or hormone replacement therapy, no subject was taking chronic medication.

**Results:** Overall, mean plasma levels of N-proANF (322 vs 259\* pg/mL), BNP (6.3 vs 4.5\*\* pg/mL) were higher in women than in men, while All levels were higher in men (10.1 vs 13.5\* pg/mL). Plasma levels of big ET-1 were similar in both groups (4.3 vs 4.1 pg/mL).

However, when stratified for age ( $<$  or  $>$  50 years), it appears that the increase in natriuretic peptides in women becomes more evident with aging, while the reverse is true for All in men. By contrast, big ET-1 levels seem unaffected by age (see table).

**Conclusion:** Normal values of N-proANF, BNP and All are affected by age and sex. These variations are to be taken into account when using neurohormonal cardiac markers for diagnostic purpose. In this perspective, changes in big ET-1, which is more stable across gender and age, should be easier to interpret.

Data (pg/mL) are means ( $\pm$ SD); \* $p<0.05$ , \*\* $p<0.01$

	N	Age	N-proANF	BNP	Big Et-1	All
Male <50	24	38 $\pm$ 6	230 $\pm$ 65	3.9 $\pm$ 0.7	4.1 $\pm$ 7.0	13.0 $\pm$ 5.3
Female <50	23	40 $\pm$ 6	242 $\pm$ 64	4.3 $\pm$ 1.1	4.4 $\pm$ 0.8	10.0 $\pm$ 4.5
Male >50	22	58 $\pm$ 5	292 $\pm$ 117	5.2 $\pm$ 2.2	4.2 $\pm$ 0.9	14.1 $\pm$ 8.0
Female >50	23	60 $\pm$ 6	402 $\pm$ 174	8.3** $\pm$ 2.4	4.1 $\pm$ 0.7	10.5 $\pm$ 7.5

**1038-77 The Prevalence of Diastolic Heart Failure in the Community**

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**Background:** Heart failure is placing an increasing burden on the community. The European Study Group on Diastolic Heart Failure has recently issued guidelines for the diagnosis of diastolic heart failure (DHF) (*Eur Heart J* 1998; 19: 990), which may underlie up to 50% of all cases. No studies have looked at the prevalence of DHF in the community using these criteria. Accordingly this study was undertaken to assess this further in a community in North London. **Methods:** 1403 subjects  $\geq 45$  years old were chosen at random from 7 representative general practices and invited to undergo a questionnaire, clinical examination, ECG, echocardiogram and plasma N-terminal-proBNP (NTB) levels (Elecys, Roche Diagnostics). DHF was diagnosed according to criteria set by the Study Group namely all three of: symptoms of congestive heart failure in the absence of significant lung disease and/or signs of congestive heart failure; left ventricular ejection fraction

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