that systolic dysfunction is common in DHF. Methods: Echocardiography with tissue Doppler imaging was performed in 339 subjects, in whom 82 had systolic heart failure (SHF) (ejection fraction <50%), 73 had DHF (ejection fraction <50% with diastolic abnormalities on Doppler echocardiography), 68 had isolated diastolic dysfunction (DD) and 106 normal controls. Regional myocardial velocity curves were constructed offline using a 8- basal, 6-mid segmental model. Results: The peak regional myocardial sustained systolic (Sm) and early diastolic (Em) velocities were significantly lower in patients with SHF, DHF and DD than controls in almost all the myocardial segments. Likewise, the mean Sm (SHF < DHF < DD < Controls: 3.3 ± 1.4 vs 4.6 ± 1.3 vs 4.1 ± 1.0 vs 6.3 ± 1.0 cm/s; all p < 0.001) and mean Em (SHF = DHF < DD < Controls: 3.6 ± 1.2 vs 3.8 ± 1.3 vs 5.6 ± 1.3 vs 7.1 ± 1.3 cm/s; all p < 0.001) from the six basal segments were decreased in all the disease groups. A mean Sm of 4.4 cm/s (± standard deviation of controls) predicted the presence of systolic dysfunction in 92% of patients with SHF, 52% with DHF and 14% with DD. Conclusions: Using tissue Doppler imaging, systolic abnormalities were evident in patients previously diagnosed as SHF, as well as in patients with lesser extent, isolated DD. This indicates the common coexistence of systolic and diastolic dysfunction in a spectrum of different severity in the pathophysiological process of heart failure.

1157-155
Prevalence, Clinical Characteristics, Quality of Life, and Prognosis of Patients With Congestive Heart Failure and Isolated Diastolic Dysfunction

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Background. Prevalence of isolated LV diastolic dysfunction (IDD) has been reported to be as high as 1/3 of all chronic congestive heart failure (CHF) cases, with an increasing prevalence in the elderly population. However, there is a paucity of prospective data about the prevalence and prognosis of IDD in an unselected population of pts admitted to hospital with CHF.

Methods. We prospectively evaluated 179 consecutive pts admitted in medical departments of our hospital for CHF. Among them, 135 (±9 males, median age 74 years) survived hospitalization and were included in the study (excluded 44 pts: LV systolic dysfunction and no significant valvular disease or secondary mitral regurgitation). CHF was diagnosed using a modification of the Framingham criteria, and IDD according to the European Study Group on Diastolic Heart Failure echo criteria (Eur Heart J 1998;19: 990). Six-month survival of CHF pts was compared with that of age- and sex-matched general population living in Udine in 1996.

Results. Twenty-nine pts (22%) had IDD; 102 (76%) LV systolic dysfunction (i.e. LV ejection fraction <45%). There was no difference in age, gender and NYHA functional class between pts with IDD or LV systolic dysfunction. Six-month rehospitalisation rate (50% and 80%) and mean length-of-stay during readmissions (10 and 10 days) was similar between the 2 groups. Using the Minnesota Living with Heart Failure score, quality of life was similar between the 2 CHF pts groups both at discharge (39.4 ± 34.7) and at 6-month visit (10.4 ± 10.4). Six-month survival, adjusted for age and gender, was similar between pts with IDD or LV systolic dysfunction (90% and 89.8% Hazard Ratio: 0.99; 95%CI 0.27-3.61), and significantly reduced (Log Rank = 8.58; p<0.001) in comparison to that of the general population (Figure). Two pts (7% of pts with LV ejection fraction <45%) did not show any echo evidence of cardiac dysfunction.

Conclusions: Our data show, using standardized echo criteria, prevalence of IDD in pts admitted to hospital with CHF seems to be lower than previously reported. CHF pts with IDD showed clinical symptoms, self-perceived quality of life, rehospitalization rate, and 6-month mortality similar to pts with prevalent systolic dysfunction.

What Is Late Mortality After Hospitalization for Heart Failure in the Real World? A One-Year Report From The Lady Davis Carmel Medical Center Registry

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Background: Heart failure (HF) is common cause of morbidity and mortality but current prevalence and long-term outcome are largely unknown in general population as opposed to selected for clinical trials.

Methods: We prospectively consecutively enrolled pts discharged from hospital with clinical HF or suspected HF (drug treatment compatible with HF) from HF registry by prospective screening of internal medical, cardiac, intensive care and surgical departments in 2 hospitals (1 tertiary center with cardiac surgery, 1 referral center). Vital signs, NYHA functional class, 6 minute walk distance (6MWD), carvedilol dose and depressive symptoms were recorded.

Results: A total of 932 consecutive pts were enrolled. Ninety-three (10%) pts had a history of diabetes mellitus (DM) (including DM and diabetes). The mean age was 75±11 yrs, p=0.03), but death was not predicted by new onset diabetes mellitus (31/90, 34% vs 74/272, 27%, NS), nor following correction for age and sex in stepwise multivariate analysis. Carvedilol was in hospital for CHF or suspected CHF in the real world: 1. Late (12 mth) mortality was higher than expected. 2. Mortality was higher in older pts. 3. Death was not predicted by acute event at entry to database and was marginally but not significantly higher in diabetics.

Predictors of 1 year mortality

<table>
<thead>
<tr>
<th>Vital status (12 mths)</th>
<th>Age (ys)</th>
<th>NIH on index admission</th>
<th>New AAF/PAP index admission</th>
<th>IODM</th>
<th>NIDDM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dead (N=90)</td>
<td>77±10</td>
<td>6 (7%)</td>
<td>7 (8%)</td>
<td>7 (8%)</td>
<td>24 (27%)</td>
</tr>
<tr>
<td>Alive (N=272)</td>
<td>75±11</td>
<td>21 (8%)</td>
<td>24 (9%)</td>
<td>21 (8%)</td>
<td>53 (20%)</td>
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<tr>
<td>p value</td>
<td>0.03</td>
<td>NS</td>
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</table>

1157-156
Efficacy and Tolerability of Carvedilol in Diabetic Patients With Chronic Heart Failure

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Background: The benefits of beta blockers (BB) in patients with chronic heart failure (CHF) are well established, however, there is limited data on the impact of BB in diabetic CHF patients, a subgroup in whom BB have been considered relatively contra-indicated. The aim of this study was to compare the efficacy and tolerability of the BB, carvedilol in diabetic and non-diabetic CHF patients.

Methods: A retrospective analysis was conducted on 505 consecutive patients with CHF (434 men, 71 women) aged 55±13 years who were commenced on carvedilol between February 1996 and May 2001. Ninety-three patients (18%) had a history of diabetes mellitus (DM group). Patients were reviewed at 3, 6, 12, 18 and 24 months then annually. Vital signs, NYHA functional class, 6 minute walk distance (6MWD), echocardiographic measurements of LV dimensions (LVEDD and LVESD) and fractional shortening (FS) were recorded at each visit. In addition, survival and non-fatal adverse events were recorded.

Results: There were no significant differences between the DM and non-DM groups at baseline with respect to age, sex, duration of CHF, heart rate, diastolic blood pressure, serum Na+ and creatinine, drug therapy, NYHA class, LV dimensions and function. The DM group were significantly heavier, had lower 6MWD, and higher systolic blood pressure at baseline. A higher percentage of diabetics had ischemic heart disease (34% vs 27%, p<0.001). During a mean follow up of 32±18 months, 32% of the DM group died, 12% underwent heart transplantation (HTx) and 11% withdrew from carvedilol due to adverse events. In comparison, 19% of the non-DM group died, 9% underwent HTx and 16% were withdrawn from carvedilol due to adverse events (all p's <0.001 vs DM group). Mean change carvedilol doses were 42±5 and 39±3 mg/day for DM and non-DM groups (p=NS). At 24 months, NYHA class and 6MWD improved significantly, LVEDD fell by 3±1.0 mm, LVESD by 5±2.0 mm and FS rose by 5±1% (all p<0.001 vs baseline, n=226), with no significant differences between the DM and non-DM groups.

Conclusion: The tolerability, clinical outcomes and beneficial effects of carvedilol on LV remodeling are similar in diabetic and non-diabetic CHF patients.

1157-157
Is Additional Neurohormonal Antagonism Useful in Patients With Severe Chronic Heart Failure Already Receiving a Combination of Neurohormonal Antagonists? Results of the COPERNICUS Study

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Background. The results of the Val-HeFT study suggested that broad neurohormonal blockade may have deleterious effects in patients with heart failure (HF), but this hypothesis has not been evaluated in other trials.

Methods. The 2289 patients with severe HF in the COPERNICUS trial were randomized to placebo (PBO) or carvedilol (CRV), which were added to diuretics and an ACE inhibitor (A) for up to 29 months. Of these patients, 445 were also on spironolactone at baseline and thus received 3 neurohormonal antagonists if they were randomized to CRV. Compared with those not on spironolactone, patients on spironolactone had a...