Further, lipid lowering may not be as beneficial in advanced disease. We compared survival associated with statin therapy in CAD pts with and without LVD.

Methods: A cohort of 2,202 non-LVD pts and 364 LVD pts with angiographically defined CAD (≥70% stenosis), were studied from the registry of the Intermountain Heart Collaborative Study at LDS Hospital. Risk factors and clinical data, including statin prescription at discharge, were recorded at baseline. Pts were followed for 3.0±1.9 years (maximum 7.7 years) to determine the incidence of mortality. Cox regression and Kaplan-Meier estimates were used to model survival in both groups.

Results: Patient age (63±12 years) and gender (34% female) did not differ between the groups. Statins were prescribed at discharge for 28% of non-LVD and 26% of LVD pts (p=NS). Among non-LVD patients, mortality was 6.8% for statin prescribed pts and 12.7% for those not prescribed statins (p=0.005 by log-rank); among LVD pts, mortality was 16.0% when prescribed statins and 32.6% when no statin was prescribed (p=0.017 by log-rank). After adjustment for covariables, these associations remained for non-LVD pts (hazard ratio [HR]= 0.66, 95% CI= 0.47-0.93), and LVD pts (HR=0.57, CI= 0.33-0.99). No interaction was found between statin prescription and EF for mortality (p-interaction=0.71).

Conclusion: Proportionate benefit from statin prescription was similar in LVD and non-LVD groups, but absolute benefit was greater in LVD pts (16% vs. 6% absolute mortality reduction). These results demonstrate the benefit of statin discharge prescription, regardless of degree of LVD and emphasize current underutilization, particularly in those with LVD.

## 1184-77 Utilization of ACE-I and β-blocker Therapy in Managed Care Patients With Heart Failure: NC ACE Project

David C. Goff, Carla A. Sueta, David W. Brown, Jill McArdle, Sharon Peacock, Alain Bertoni, Wake Forest University School of Medicine, Winston-Salem, NC, Medical Review of North Carolina, Cary, NC

**Background:** Heart failure (HF) results in substantial morbidity and mortality in the US. Despite evidence-based guidelines recommending proven therapies, translation into clinical practice is suboptimal. The goal of the North Carolina Achieving Cardiac Excellence (NC ACE) Project is to increase the utilization of angiotensin converting enzyme inhibitor (ACE-I) and β-blocker therapies in patients with HF. The purpose of this study is to compare the management of Medicare and Medicaid patients with HF enrolled in managed care.

**Methods:** Data were abstracted from outpatient medical records for 971 Medicare (3 managed care plans) and 654 Medicaid (2 plans) patients treated for HF during 2000. Patients receiving dialysis were excluded.

**Results:** Compared to Medicaid patients, Medicare patients were older (76±9 vs. 59±14 years), more likely to be white (84 vs. 47%), and men (50 vs. 30%). More than 80% of Medicare (n=795) and Medicaid (n=526) patients had documentation of a quantitative or qualitative assessment of left ventricular function (LVF). Left ventricular systolic dysfunction (LVSD) was present in 37% (n=297) of Medicare patients and 37% (n=197) of Medicaid patients.

| Indicator | Medicare | Medicaid |
|---|---|---|
| LVF Assessment | 849 (87%) | 573 (89%) |
| ACE-I in LVSD | 215 (72%) | 147 (75%) |
| ACE-I Intolerance | 42 (14%) | 23 (12%) |
| β-blocker in LVSD | 144 (48%) | 96 (49%) |
| β-blocker Intolerance | 34 (12%) | 25 (13%) |

**Conclusion:** Assessment and treatment of HF appears similar in Medicare and Medicaid managed care patients. Although not optimal, these rates are substantially higher than previously reported. Opportunities for increasing appropriate use of β-blockers should be prioritized in these populations.

## 1184-78 Hemodynamic Effects of Levosimendan in Addition to Dobutamine Infusion in Patients With Advanced Heart Failure Intractable to Dobutamine Infusion Alone

Panagiotis Papazoglou, Maria Anastasiou-Nana, Eleftheria Tsagalou, John Terrovitis, Elias Tsolakis, Argirios Dalianis, George Alexopoulos, John Kanakakis, Konstantinos Christodoulou, John N. Nanas, University of Athens, Athens, Greece

**Background:** Levosimendan is a new calcium-sensitizing agent with positive inotropic and vasodilatory effects.

**Purpose:** This study measured the magnitude and duration of the hemodynamic response to an infusion of levosimendan in clinically unstable patients with advanced congestive heart failure (CHF) pretreated with dobutamine and furosemide.

**Methods:** In thirteen patients with advanced CHF, 48-77 years of age, in NYHA functional class IV, previously treated with intermittent dobutamine infusions, and hospitalized for clinical instability despite continuous dobutamine, 10 μg/kg/min, and furosemide, 10 mg/h, infusions, a continuous infusion of levosimendan, in a bolus of 6 μg/kg, followed by a 0.2 μg/kg/min infusion for 24 h, was added. The patients were followed for 7 days, including serial right-heart catheterizations. The effect on Systolic Blood Pressure (SBP), Cardiac Index (CI), Pulmonary Capillary Wedge Pressure (PCWP), Right Atrial Pressure (RA) and Systemic Vascular Resistance (SVR), before and at 12 hours, 24 hours and 1 week after levosimendan administration, was recorded.

**Results:** The results are summarized in the Table

| | before | 12h | 24h | 1week |
|---|---|---|---|---|
| **SBP** (mmHg) | 92±13 | 96±12* | 95±16 | 96±14 |
| **CI** (l/min/m$^2$) | 1.7±0.3 | 2.4±0.4* | 2.5±0.6* | 2.5±0.8* |
| **PCWP** (mmHg) | 28±6 | 25±6* | 23±8* | 22±10* |
| **RA** (mmHg) | 15±6 | 11±5* | 10±6* | 10±6* |
| **SVR** (IU Wood) | 19±7 | 14±5* | 14±4* | 14±5* |

*p<0.05 versus baseline

**Conclusion:** The addition of levosimendan had a sustained therapeutic effect in clinically unstable patients with CHF refractory to continuous dobutamine and furosemide infusions. This regimen could be used as a bridge to left ventricular assist device implantation or heart transplantation.

## 1184-79 Acute Intravenous Ranolazine Improves Left Ventricular Function in Dogs With Heart Failure: A Dose Escalation Study

Hideaki Morita, George Suzuki, Margaret P. Chandler, William C. Stanley, Brent K. Blackburn, Hani N. Sabbah, Henry Ford Health System, Detroit, MI, Case Western Reserve University, Cleveland, OH

**Background:** To explore the use of intravenous (iv) ranolazine, a partial fatty acid oxidation inhibitor, as acute therapy for heart failure (HF), we determined the effects of up-titration and reversibility of ranolazine in 8 dogs with microembolizations-induced HF. **Methods:** Ranolazine was given as 0.05 mg/kg bolus followed by iv infusion at 0.1, 0.3, 1.0 and 3.0 mg/kg/hr each for 1 hour. Heart rate (HR), peak left ventricular (LV) systolic pressure (LVSP), stroke volume (SV), LV end-diastolic volume (EDV), LV end-systolic volume (ESV), LV ejection fraction (EF) and ranolazine plasma concentration (RANc) were measured at baseline and at the end of each dose. **Results:** The results are shown in the table. Ranolazine decreased ESV without affecting EDV, thus increasing EF at all doses in a dose and RANc dependent manner. The increase in EF plateaued at doses ≥0.3 mg/kg/hr, suggesting a half maximal response at ~0.1 mg/kg/hr at RANc of 67±11 ng/ml. Ranolazine had nominal effects to reduce HR at doses >0.3 mg/kg/hr and LVSP at a dose of 3.0 mg/kg/hr. The effect of ranolazine (0.05 mg/kg bolus + 0.3 mg/kg/hr for 1 hr) declined after stopping infusion in proportion to RANc. **Conclusions:** Intravenous ranolazine improves LV function in dogs with chronic HF in a reversible, dose and concentration dependent manner with little or no impact on HR and LVSP.

| | RanolazineDose (mg/kg/hr) | | | | |
|---|---|---|---|---|---|
| | Baseline | 0.1 | 0.3 | 1.0 | 3.0 |
| HR (beats/min) | 83 ± 4 | 80 ± 6 | 75 ± 5* | 74 ± 5* | 73 ± 5*^ |
| LVSP (mmHg) | 96 ± 3 | 102 ± 4 | 97 ± 3 | 94 ± 3 | 89 ± 4*^ |
| SV (ml) | 19 ± 1 | 23 ± 1* | 25 ± 1*^ | 26 ± 1*^ | 26 ± 1*^ |
| EDV (ml) | 66 ± 4 | 66 ± 3 | 65 ± 4 | 66 ± 3 | 65 ± 4 |
| ESV (ml) | 47 ± 4 | 43 ± 4* | 41 ± 3*^ | 39 ± 3*^ | 39 ± 3*^ |
| EF (%) | 30 ± 2 | 36 ± 2* | 38 ± 2*^ | 39 ± 3*^ | 39 ± 3*^ |
| RANc (ng/ml) | 0 | 67 ± 4 | 106 ± 94 | 557 ± 87 | 1259 ± 1354 |

*=P<0.05 vs. Baseline; ^=P<0.05vs. 0.1 mg/kg/hr

## 1184-80 Effect of the Angiotensin Converting Enzyme Inhibitor Trandolapril on Functional Status and Furosemide Consumption in Patients With Reduced Left Ventricular Function After Myocardial Infarction

Jawdat Abdulla, Lars Kober, Christian Torp-Pedersen, Gentofte University Hospital of Copenhagen, Copenhagen, Denmark

Background: Information on the direct benefit of angiotensin converting enzyme inhibitors on symptoms are scarce and in contrast to the overwhelming amount of information on survival. Effect of the use of concommitant diuretic therapy on symptoms has been also questioned. Therefore we studied development of New York Heart Association (NYHA) classification and use of furosemide in the Trandolapril Cardiac Evaluation Study (TRACE).

Methods: In TRACE 1749 consecutive patients with left ventricular systolic dysfunction after myocardial infarction (MI) were randomized to either placebo or trandolapril. The patients were assessed for changes in NYHA classes and use of furosemide every 3 months and were followed up 2-4 years.

Results: There were no differences in baseline characteristics between the two treatment groups. The majority of the patients were in NYHA classes II and I. Both placebo and trandolapril groups showed equal improvement in NYHA classes without any significant differences (P> 0.05, figure). This result was also found in patients with NYHA class II or greater at the time of randomization. Trandolapril resulted in a mild but significant reduction of the use of furosemide with a mean reduction of 12 mg/day overall during follow up (p<0.001, figure).

Conclusion: Despite a significant reduction in mortality, trandolapril did not improve