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INVESTIGATION OF THE RELATIONSHIP BETWEEN HBA1C LEVEL AND OUTCOMES IN HEART FAILURE PATIENTS WITH AND WITHOUT DIABETES MELLITUS

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Sunday, April 03, 2011, 3:30 p.m.-4:45 p.m.

Session Title: Biomarkers and Prognostication in Heart Failure
Abstract Category: 24. Myocardial Function/Heart Failure–Clinical Nonpharmacological Treatment
Session-Poster Board Number: 1054-8

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Background: In patients with established heart failure (HF), the relationship between HbA1c levels and mortality outcomes is unknown.

Methods: 846 advanced HF patients followed at the Ahmanson-UCLA Cardiomyopathy Center were analyzed as a whole and by subgroups based on the presence or absence of diagnosed diabetes mellitus (DM+ [n=358], DM- [n=488]). Patients were classified into subgroup specific quartiles based on HbA1c levels at referral. The primary outcome was death or the need for urgent heart transplant (D/UT). For the whole cohort: Q1 HbA1c ≤5.8, Q2 HbA1c 5.9- 6.3, Q3 HbA1c 6.3-7.2, Q4 HbA1c>7.2. For DM+ and DM-: quartiles are listed in the figure below.

Results: For the whole study cohort, two year survival without D/UT for Q1, Q2, Q3, and Q4 was 57%, 60%, 53%, and 66%, respectively. (p=0.018). For the DM+ subgroup, two year survival for Q1, Q2, Q3, and Q4 was 55%, 47%, 68%, and 69%, respectively (p=0.005). For DM- subgroup, there was no difference in survival between quartiles. After adjusting for potential confounders, each unit increase in HbA1c in this cohort of HF patients was associated with 11% decreased risk of D/UT (RR 0.89 [95% CI 0.80-0.99], p=0.027).

Conclusion: In patients with advanced HF, higher HbA1c levels were associated with improved survival. This relationship was evident in the total patient cohort as well as DM+ subgroup. It was not seen in patients not diagnosed with DM. Further investigation of the mechanism of the relationship between HbA1c and survival in HF patients is warranted.