This exploratory analysis of the first cohort of HF patients to receive BVA testing at LMC revealed a strong association between markedly anemic or hypervolemic status at discharge and readmission within 30 days. Among those with a 30-day readmission, 47% were anemic at discharge, 47% hypervolemic. 46% of patients who were anemic and anemic and 50% hypervolemic at discharge experienced a 30-day readmission.

Patients with TBV and RBCV in normal range or not exceeding 62% have mild congestive heart failure and are not targeted in the HF setting, and strategies to reduce readmissions may include direct quantification of actual blood volume; automatically calculated and reported by BVA.

Discussion

The main limitations of this retrospective exploratory analysis are the small cohort, whose baseline demographics, clinical status, and response to treatment are not clear, and the imputation of discharge TBV, which any unrecorded change in RBCV status would confound and which cannot be presumed to deliver the accuracy of direct measurement. This is the second BVA data set available to examine the impact of RBCV status on patient outcomes. The 30-day readmission rate observed for patients with normal or near-normal TBV and RBCV at discharge echoes the larger dataset (n=260) presented earlier this year at ACC 2016 in which TBV and RBCV management guided by BVA resulted in a 30-day readmission rate of 11.8%. This concordance of results is encouraging, and suggests the potential of robust validation of both normovolemic and hypervolemic status at discharge and readmission within 30 days in HF patients is achievable in HF settings.

Discussion of patient outcomes is presented at the American College of Cardiology's annual scientific session in 2016. The Authors would like to acknowledge Lisa Quartley for her help with data processing and with this presentation.