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Higher Hematocrits (Hcts) are Associated with Lower Hospitalizations for Congestive Heart Failure, Fluid Overload, and Cardiomyopathy.

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Previous studies in non-ESRD patients with congestive heart failure have shown that increasing Hcts are associated with improved cardiac function and lower morbidity rates. In order to assess this relationship in ESRD patients, we studied 66,761 incident Medicare hemodialysis patients from 1996-1998 who survived 9 months, assessing the likelihood of hospitalizations for congestive heart failure, fluid overload, and cardiomyopathy, based on ICD-9-CM hospitalization principal diagnosis codes. Each patient survived Month 4 thru Month 9 of an entry period, characterizing age, gender, race, comorbidity (including congestive heart failure), severity of disease (based on a history of hospital days in the entry period), and Hct. All patients with four or more hematocrit claims in the entry period were selected, with outcomes determined in the one-year follow-up period from Medicare Part A inpatient claims. Relative risks (with p-values), determined from a Cox regression model and adjusting for the patient characteristics noted above, are shown below.

<30%	30-<33%	33-<36%	36-<39%	39%+
1.51 (<0.001)	1.29 (<0.0001)	1.0	0.74 (0.0008)	1.09 (NS)

The likelihood of hospitalizations for congestive heart failure, fluid overload, and cardiomyopathy were greater in patients who had Hcts less than 33% compared to those

with Hcts of over 33%. The patients who had Hcts 36-<39% had a 26% lower likelihood of hospitalizations compared to the group with Hcts 33-<36%. We conclude that higher Hcts in the 36-<39% range are associated with the lowest likelihood of hospitalizations for congestive heart failure and fluid overload. These findings are consistent with the data published in the non-ESRD patients showing improved congestive heart failure with high Hct levels. Potential selection bias should be considered, since our adjustments for a history of congestive heart failure and severity may not be adequate.

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The likelihood of hospitalizations for congestive heart failure, fluid overload, and cardiomyopathy were greater in patients who had hematocrits less than 33% compared to those with hematocrits of over 33%. The patients who had hematocrits 36- $<$ 39% had a 24% lower likelihood of hospitalizations compared to the group with hematocrits 33- $<$ 36%. We conclude that higher hematocrits in the 36- $<$ 39% range are associated with the lowest likelihood of hospitalizations for congestive heart failure and fluid overload. These findings are consistent with the data published in the non-ESRD patients with CHF and Lower Hct levels. Potential selection bias should be considered, since our adjustments for a history of CHF and severity may not be adequate.

Disclosure: YES

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