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Title: Higher Hematocrit Values Under K/DOQI Guidelines are Associated with Lower Mortality in Incident Hemodialysis Patients

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Abstract:

The association between hematocrits (Hct) of 36% + and lower mortality has not previously reported in the earlier studies using 1996-1998 incident hemodialysis (HD) patients. The absence of this association may be due to insufficient sample size in the higher Hct groups and a lack of guidelines for Hct levels. Recently, the Hct values in ESRD patients have been improved under the NKF DOQI guidelines published in 1997. To investigate the association between Hct's of 36% + and mortality, we studied incident 1/1/1998-6/30/2000 Medicare HD patients (N=75,533). All patients survived and continued on HD 9 months from the 1st ESRD service date with patient characteristics, comorbidity, disease severity, and Hct values determined during the entry period (month 4-9). Patients with 4+ Hct's in the entry were grouped into: <30%, 30-<33%, 33-<36%, 36-<39%, and 39%+. Patients were followed from the end of entry period until death, change of dialysis, transplant, loss-to-follow-up, or June 30, 2001. Cox regressions were used to assess patient relative risk of death for cardiac, infectious, other cause, and all cause. The results are presented in the Table.

Compared to patients with Hct of 33-<36%, patients with Hct of 36% + had significantly lower risks of death due to cardiac, infectious, and all causes during the follow-up period. For other cause, patients with Hct of 36-<39% had significantly lower risk of death during the follow-up period compared to patients with Hct of 33-<36%. These findings suggest higher Hct's in the most recent NKF DOQI guideline period appear to be associated with lower mortality. Given the difficulties in achieving the narrow 33-36% target Hct, there appears to be little risk to patients

sustained at Hct's in the 36-39+ range and there may be a benefit.

HCT	N	RR-cardiac	RR-infection	RR-other	RR-all cause
<30%	5,793	1.39	1.68	1.68	1.56
30-<33%	16,057	1.17	1.21	1.20	1.20
33-<36% (ref)	32,848	1.00	1.00	1.00	1.00
36-<39%	16,861	0.90	0.87	0.91	0.90
39% +	3,974	0.83	0.82	0.91*	0.85

* p-value = 0.0565, all others < 0.05

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