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Title: Risk-Adjusted Mortality Comparisons of Hemodialysis (HD) and Peritoneal Dialysis (PD) Patients Under the Age of 65

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Abstract:

To address concerns that large-scale outcomes studies often fail to adjust for co-morbid risk factors, we compared PD and HD mortality among 61,676 incident U.S. Medicare patients (pts) under the age of 65 adjusting for co-morbid conditions and baseline GFR. Pts began dialysis between 1995-96 and were followed through June 30, 1999 or until death or transplantation. Interval Poisson regression was used to compare mortality adjusting for demographic differences, diabetes (DM), co-morbidity and starting GFR. Compared to PD, HD pts were older and had a higher incidence of cardiac disease and PVD ($p < 0.0001$). Summarized below are adjusted relative risks [RR(HD:PD)].

Interval	Cause of ESRD			
	Non-DM		DM	
	Age		Age	
	20-44	45-64	20-44	45-64
Follow-up				
0-6 mos.	1.54**	1.60**	1.74**	1.31**
6-12 mos.	1.35*	1.19*	1.16	0.92
12-18 mos.	1.48*	1.14	0.99	0.79**
18-24 mos.	1.08	1.21*	1.08	0.75**
24-30 mos.	1.24	0.96	1.09	0.80**
30-36 mos.	1.06	1.08	0.94	0.77**
Average	1.33**	1.21**	1.15*	0.88**

* $p < 0.05$; ** $p < 0.001$

Among Non-DM patients < 65 and DM patients < 45, HD pts are shown to have an increased risk of death with an average increase of 15% to 33% in pts under 45 and 21% in Non-DM pts aged 45-64. In DM pts aged 45-64, those treated with PD had an average increase in mortality of 14% compared to HD. These results suggest that except for DM pts aged 45-64, U.S. pts under the age of 65 treated with HD had outcomes that were significantly worse than their PD counterparts even after adjusting for gender, age, race, diabetes, select co-morbidity and starting GFR. Further research is required to better understand the higher risks of death associated with HD among younger and, relative to pts > 65 yrs old, generally healthier patients.

Disclosure:

Edward Vonesh PhD is an employee of Baxter Healthcare Corporation.
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