Supplement

Methods for marginal structural model to perform an as treated analysis

To estimate the causal effect of modality on rate of hospitalization days in the presence of confounding, we constructed a marginal structural model employing inverse probability of treatment weights. We considered the modality to be a time-dependent variable affected by the previous modalities. In longitudinal studies with time-varying exposure, a marginal structural model uses the inverse probability of treatment weights updated each time a modality switch occurs to achieve a balance between the assisted PD and HD groups; not only at baseline but also at the different time points. This analysis generated a new baseline table for the two groups shown in the Supplement Table 1.

Patients are included in the assisted PD group if they experienced assisted PD during follow-up. Similarly, patients are included in the HD group if they experienced in-center HD during follow-up. Thus, a single patient may contribute to both groups if they received both assisted PD and HD during follow-up. Hospitalizations in the as treated analysis were assigned to the modality immediately prior the hospitalization. Patients were followed as long as they received either assisted PD or HD but censored if they received any other modality included self-care PD. All baseline differences were compared using p values.

Supplement

Table 1: Baseline characteristic after weighting in the assisted peritoneal dialysis and hemodialysis groups.

	Assisted PD (N=190)	HD (N=876)	p-value
Age, mean	63.7 (12.0)	65.3 (10.4)	0.10
Male, %	62	62	0.97
Race, Caucasian, %	93	88	0.08
Comorbidity			
Diabetes, %	52	51	0.83
CAD, %	33	34	0.75
CHF, %	20	26	0.09
Other cardiac, %	25	29	0.29
Cerebrovascular, %	16	17	0.73
PVD, %	22	16	0.05
Cancer, %	14	18	0.21
History of GI Bleed, %	11	8.4	0.37
Body Mass Index, mean (SD)	28.1 (2.5)	28.3 (9.0)	0.69
ADG [a], mean (SD)	11.2 (2.7)	10.7 (2.4)	0.02
Hemoglobin prior to start, g/dl, mean (SD)	9.8 (1.5)	9.7 (1.2)	0.31
Serum albumin prior to start, g/dl, mean (SD)	36.1 (5.0)	34.6 (8.9)	0.001
eGFR, ml/min per 1.73 m^2, mean (SD)	8.6 (3.9)	8.4 (2.7)	0.62
Neighborhood Income Quintile†, %			
Quintile 1	27	23	0.38
Quintile 2	23	20	
Quintile 3	12	18	
Quintile 4	17	19	
Quintile 5	21	21	
Rural Resident	13	12.4	0.83
At least 4 months of nephrology care prior to start, %	77	79	0.40
At least 12 months of Nephrology care prior to start, %	72	69	0.32
Nephrology visits in prior year (SD)	10.9 (5.0)	10.2 (6.9)	0.10
Family physician visits in prior year, mean (SD)	12.5 (10.9)	13.7 (10.5)	0.17
Hospital visits in prior year, mean (SD)	1.4 (1.2)	1.4 (1.0)	0.55
Hospital days in prior year if admitted, mean (SD)	11.9 (12.9)	14.4 (15.0)	0.02
Inpatient start, %	29	41	0.006

Acronyms: ADG, John Hopkins Aggregated Diagnosis Groups; CAD, coronary artery disease; CHF, congestive heart failure; eGFR, estimated glomerular filtration rate; GI, gastrointestinal disease; HD, hemodialysis; PD, peritoneal dialysis; PVD, peripheral vascular disease

† Neighbourhood income quintile is a household size-adjusted measure of household income based on the 2006 census data. The quintiles were defined within each neighbourhood, not across the entire province, in order to minimize the effect of large differences in housing costs, and to ensure an equal percentage of the population in each income quintile.

Supplemental Table 2: Hospitalization of assisted PD compared to hemodialysis using an as treated analysis

Weighted but not adjusted for remaining baseline differences

Modality	Hospital days per year	95% CI	P-value
Assisted PD	8.4	4.6,15.5	0.55
HD	9.5	6.8,13.3	

The incident rate ratio for HD compared to assisted PD adjusted for peripheral vascular disease, John Hopkins Aggregated Diagnosis Groups, albumin prior to start, hospital days in the prior year and inpatient start was 0.93 (95% CI, 0.51 to 1.71).