

Supplemental Tables 1-4

Table 1. Secondary efficacy variables: Laboratory data, dry body weight, and BP

	Length of Follow-Up							P
	Baseline	6 mo	12 mo	18 mo	24 mo	30 mo	36 mo	
Kt/V								
Hemodialysis	1.66 (1.62, 1.69)	1.68 (1.65, 1.70)	1.73 (1.70, 1.77)	1.75 (1.71, 1.78)	1.78 (1.74, 1.82)	1.76 (1.72, 1.80)	1.80 (1.75, 1.84)	<0.001 ^a
OL-HDF	1.67 (1.64, 1.70)	1.80 (1.77, 1.83)	1.83 (1.80, 1.86)	1.84 (1.81, 1.88)	1.84 (1.80, 1.88)	1.85 (1.81, 1.89)	1.88 (1.83, 1.92)	<0.001 ^b
Time × time	—	0.001	0.001	0.001	0.019	0.001	0.010	0.81 ^c
URR (%)								
Hemodialysis	74.1 (72.8, 75.5)	75.4 (74.9, 76.0)	76.4 (75.8, 77.0)	76.8 (76.2, 77.5)	77.2 (76.5, 77.9)	77.1 (76.4, 77.8)	77.5 (76.7, 78.3)	<0.001 ^a
OL-HDF	74.3 (72.4, 76.3)	77.7 (77.2, 78.3)	78.1 (77.6, 78.7)	78.4 (77.8, 79.0)	78.3 (77.6, 79.0)	78.7 (77.9, 79.4)	79.4 (78.6, 80.1)	<0.001 ^b
Time × time	—	0.001	0.001	0.001	0.021	0.003	0.002	0.76 ^c
nPCR (g/kg per day)								
Hemodialysis	1.09 (1.07, 1.11)	1.10 (1.08, 1.11)	1.10 (1.08, 1.12)	1.12 (1.10, 1.14)	1.11 (1.09, 1.14)	1.09 (1.07, 1.12)	1.12 (1.09, 1.15)	0.01 ^a
OL-HDF	1.10 (1.08, 1.12)	1.12 (1.10, 1.14)	1.12 (1.10, 1.14)	1.14 (1.12, 1.16)	1.13 (1.10, 1.15)	1.15 (1.12, 1.17)	1.12 (1.09, 1.15)	0.09 ^b
Time × time	—	0.08	0.19	0.32	0.34	0.004	0.77	0.20 ^c
Albumin (g/dl)								
Hemodialysis	4.06 (4.02, 4.11)	4.08 (4.05, 4.12)	4.09 (4.05, 4.13)	4.07 (4.03, 4.11)	3.97 (3.92, 4.01)	3.88 (3.83, 3.93)	3.88 (3.82, 3.94)	0.08 ^a
OL-HDF	4.11 (4.07, 4.15)	4.06 (4.02, 4.10)	4.04 (4.00, 4.08)	4.04 (4.00, 4.08)	3.95 (3.90, 4.00)	3.83 (3.78, 3.88)	3.85 (3.79, 3.90)	<0.001 ^b
Time × time	—	0.40	0.08	0.35	0.65	0.21	0.42	0.19 ^c
Dry body weight (kg)								
Hemodialysis	66.8 (65.6, 68.1)	67.6 (67.3, 68.0)	67.4 (67.0, 67.8)	66.9 (66.5, 67.3)	66.7 (66.2, 67.1)	66.6 (66.2, 67.1)	66.3 (65.8, 66.8)	0.51 ^a
OL-HDF	67.9 (66.6, 69.2)	67.5 (67.1, 67.8)	67.3 (66.9, 67.6)	67.4 (66.9, 67.8)	66.9 (66.4, 67.3)	66.9 (66.4, 67.3)	66.8 (66.3, 67.3)	<0.001 ^b
Time × time	—	0.52	0.68	0.12	0.60	0.54	0.20	0.33 ^c
Hemoglobin (g/dl)								
Hemodialysis	12.0 (11.8, 12.1)	12.0 (11.8, 12.1)	11.8 (11.7, 11.9)	11.9 (11.7, 12.0)	11.7 (11.6, 11.9)	11.6 (11.4, 11.8)	11.6 (11.4, 11.8)	0.33 ^a
OL-HDF	12.0 (11.9, 12.1)	11.8 (11.7, 12.0)	11.7 (11.6, 11.9)	11.9 (11.8, 12.1)	11.8 (11.6, 12.0)	11.6 (11.4, 11.8)	11.7 (11.5, 11.8)	0.002 ^b
Time × time	—	0.21	0.62	0.67	0.49	0.73	0.81	0.79 ^c
TSI (%)								
Hemodialysis	30.5 (28.9, 32.0)	31.7 (30.4, 33.0)	30.6 (29.2, 32.0)	29.4 (27.8, 31.0)	28.5 (26.7, 30.3)	28.0 (26.1, 29.8)	29.4 (27.3, 31.4)	0.04 ^a
OL-HDF	27.9 (26.6, 29.2)	28.9 (27.6, 30.3)	28.4 (27.0, 29.9)	29.8 (28.2, 31.4)	28.3 (26.5, 30.0)	28.1 (26.3, 30.0)	29.4 (27.4, 31.4)	0.20 ^b
Time × time	—	0.004	0.04	0.72	0.85	0.91	1.00	0.31 ^c
Ferritin (ng/ml)								
Hemodialysis	409 (382, 436)	396 (372, 420)	383 (357, 409)	386 (358, 415)	390 (359, 422)	417 (383, 451)	392 (354, 430)	0.002 ^a
OL-HDF	372 (347, 396)	353 (329, 378)	315 (288, 341)	347 (319, 376)	371 (339, 402)	380 (346, 414)	421 (385, 458)	0.004 ^b
Time × time	—	0.02	0.001	0.06	0.39	0.14	0.28	0.14 ^c
Phosphorus (mg/dl)								
Hemodialysis	4.58 (4.45, 4.71)	4.69 (4.57, 4.81)	4.52 (4.39, 4.65)	4.58 (4.43, 4.73)	4.43 (4.27, 4.59)	4.44 (4.26, 4.61)	4.44 (4.25, 4.64)	0.62 ^a
OL-HDF	4.73 (4.60, 4.87)	4.49 (4.37, 4.62)	4.53 (4.40, 4.67)	4.56 (4.42, 4.71)	4.58 (4.42, 4.74)	4.62 (4.45, 4.79)	4.52 (4.34, 4.70)	0.87 ^b
Time × time	—	0.03	0.90	0.88	0.19	0.15	0.57	0.08 ^c
β ₂ -microglobulin								

(mg/L)								
Hemodialysis	24.8	24.4	24.1	29.0	31.0	30.6	29.8	<0.001 ^a
	(23.6, 26.1)	(23.0, 25.8)	(22.6, 25.6)	(27.3, 30.7)	(29.1, 33.0)	(28.5, 32.7)	(27.4, 32.2)	
OL-HDF	23.9	24.2	25.8	25.9	29.6	30.2	29.2	<0.001 ^a
	(22.7, 25.0)	(22.7, 25.7)	(24.2, 27.5)	(24.1, 27.7)	(27.5, 31.6)	(28.0, 32.4)	(26.8, 31.7)	
Time × time	—	0.89	0.13	0.02	0.30	0.78	0.73	<0.001 ^a
SBP predialysis (mmHg)								
Hemodialysis	136 (134, 139)	138 (135, 140)	138 (135, 140)	136 (134, 139)	136 (133, 139)	133 (130, 136)	136 (132, 139)	0.36 ^a
OL-HDF	136 (134, 139)	139 (137, 141)	138 (136, 141)	138 (135, 140)	137 (135, 140)	137 (134, 140)	133 (130, 136)	<0.001 ^a
Time × time	—	0.33	0.80	0.47	0.43	0.09	0.27	0.53 ^a
DBP predialysis (mmHg)								
Hemodialysis	71 (70, 73)	72 (70, 73)	71 (69, 73)	69 (67, 70)	70 (68, 72)	68 (67, 70)	71 (69, 73)	0.54 ^a
OL-HDF	73 (71, 74)	71 (69, 72)	71 (69, 72)	70 (68, 71)	69 (67, 71)	69 (67, 70)	70 (68, 72)	<0.001 ^a
Time × time	—	0.29	0.76	0.49	0.53	0.98	0.55	0.96 ^a

Data are shown for every 6 months but were collected every 3 months. Analysis was conducted using a mixed model for repeated measures. Data are presented as the mean (95% CI) at baseline and least-squares mean (95% CI) at 6 months, 12 months, 18 months, 24 months, 30 months, and 36 months. Time × time indicates time × time comparisons, which are given as *P* values. URR, urea reduction ratio; nPCR, normalized protein catabolic rate; TSI, transferrin saturation index; SBP, systolic BP; DBP, diastolic BP.

^a*P* value for treatment effect.

^b*P* value for time effect.

^c*P* value for treatment × time interaction.

Table 2. Anemia, antihypertensive, and phosphate binding medication

	Length of Follow-Up							<i>P</i>
	Baseline	6 mo	12 mo	18 mo	24 mo	30 mo	36 mo	
Iron dosage (mg/wk)								
Hemodialysis	38.7 (35.1, 42.2)	35.2 (31.8, 38.6)	37.2 (33.5, 40.9)	34.1 (30.0, 38.2)	37.8 (33.3, 42.3)	40.4 (35.6, 45.2)	41.0 (35.7, 46.3)	0.001 ^a
OL-HDF	40.8 (37.3, 44.3)	38.1 (34.7, 41.6)	42.8 (39.0, 46.5)	46.4 (42.3, 50.4)	43.0 (38.6, 47.4)	42.6 (37.8, 47.3)	39.9 (34.8, 45.0)	0.14 ^a
Time × time	—	0.24	0.04	0.001	0.11	0.53	0.77	0.06 ^b
ESA								
EPO								
Hemodialysis	213 (47.4)	166 (41.2)	101 (30.0)	74 (26.8)	45 (19.5)	39 (19.4)	31 (18.7)	0.55 ^a
OL-HDF	203 (44.6)	148 (39.0)	104 (31.7)	80 (27.9)	50 (21.0)	44 (21.3)	37 (20.3)	<0.001 ^b
Time × time	—	0.33	0.75	0.66	0.35	0.48	0.47	0.73 ^c
Darbe								
Hemodialysis	200 (44.5)	161 (40.0)	134 (39.8)	108 (39.0)	89 (38.5)	71 (35.3)	57 (34.3)	0.85 ^a
OL-HDF	201 (44.1)	157 (41.3)	138 (42.1)	107 (37.3)	87 (36.6)	75 (36.2)	67 (36.8)	<0.001 ^b
Time × time	—	0.66	0.39	0.82	0.47	0.53	0.40	0.60 ^c
Cera								
Hemodialysis	5 (1.1)	38 (9.4)	64 (19.0)	62 (22.4)	62 (26.8)	57 (28.4)	53 (31.9)	0.96 ^a
OL-HDF	6 (1.3)	32 (8.4)	54 (16.5)	58 (20.2)	67 (28.2)	57 (27.5)	49 (26.9)	<0.001 ^b
Time × time	—	0.58	0.51	0.77	0.28	0.86	0.50	0.68 ^c
EPO dose (IU/kg per week)								
Hemodialysis	133.8 (119.9, 147.7)	133.7 (118.5, 148.9)	139.5 (121.0, 157.9)	164.1 (142.1, 186.0)	156.4 (129.2, 183.6)	173.9 (143.4, 204.4)	156.6 (121.5, 191.6)	0.15 ^a
OL-HDF	129.3 (115.4, 143.3)	135.3 (119.2, 151.3)	157.3 (138.7, 175.8)	154.2 (132.6, 175.8)	126.7 (100.6, 152.8)	132.7 (103.0, 162.4)	131.2 (97.3, 165.1)	0.31 ^b
Time × time	—	0.89	0.18	0.53	0.12	0.06	0.31	0.02 ^c
Darbe dose (μg/kg per week)								
Hemodialysis	0.58 (0.52, 0.65)	0.61 (0.53, 0.68)	0.60 (0.51, 0.68)	0.69 (0.60, 0.78)	0.60 (0.50, 0.70)	0.65 (0.54, 0.76)	0.67 (0.54, 0.80)	0.64 ^a

OL-HDF	0.63 (0.56, 0.69)	0.64 (0.57, 0.72)	0.64 (0.56, 0.72)	0.70 (0.61, 0.80)	0.60 (0.50, 0.70)	0.66 (0.54, 0.77)	0.58 (0.46, 0.70)	0.14 ^a
Time × time	—	0.50	0.46	0.84	0.97	0.93	0.33	0.68 ^c
Cera dose (µg/kg per week)								
Hemodialysis	0.56 (0.35, 0.78)	0.54 (0.39, 0.69)	0.61 (0.48, 0.73)	0.59 (0.46, 0.72)	0.56 (0.42, 0.69)	0.57 (0.43, 0.71)	0.64 (0.49, 0.79)	0.64 ^a
OL-HDF	0.79 (0.26, 1.33)	0.63 (0.47, 0.80)	0.55 (0.41, 0.69)	0.70 (0.56, 0.83)	0.57 (0.44, 0.70)	0.64 (0.51, 0.78)	0.64 (0.49, 0.79)	0.41 ^b
Time × time	—	0.41	0.56	0.27	0.88	0.48	0.98	0.11 ^c
Antihypertensive therapy								
Hemodialysis	260 (57.8)	212 (52.0)	179 (51.9)	151 (52.6)	128 (53.3)	110 (53.1)	87 (50.6)	0.99 ^a
OL-HDF	270 (59.2)	213 (55.2)	179 (53.6)	149 (50.9)	127 (52.3)	106 (51.0)	91 (49.5)	<0.001 ^b
Time × time	—	0.53	0.78	0.44	0.80	0.82	0.51	0.93 ^c

Data are shown for every 6 months but were collected every 3 months. Analyses were conducted using a mixed model for repeated measures for continuous variables and a penalized quasi-likelihood under REML models for categorical variables. For continuous variables, data are presented as mean (95% CI) at baseline and as least-squares mean (95% CI) at 6 months, 12 months, 18 months, 24 months, 30 months, and 36 months. For categorical variables, data are presented as *n* (%). Time × time indicates time × time comparisons, which are given as *P* values. EPO, erythropoietin β; Darbe, darbepoetin alfa; Cera, methoxy-polyethylene glycol epoetin β.

^a*P* value for treatment effect.

^b*P* value for time effect.

^c*P* value for treatment × time interaction.

Table 3. Laboratory data: Other biochemical parameters

	Length of Follow-Up							<i>P</i>
	Baseline	6 mo	12 mo	18 mo	24 mo	30 mo	36 mo	
CRP (mg/L)								
Hemodialysis	11.3 (9.5, 13.2)	14.1 (11.0, 17.2)	13.3 (9.9, 16.7)	17.1 (13.3, 20.9)	14.0 (9.8, 18.2)	12.0 (7.4, 16.6)	11.9 (6.3, 17.4)	0.67 ^a
OL-HDF	11.5 (10.0, 13.0)	13.8 (10.5, 17.2)	14.0 (10.4, 17.5)	14.6 (10.7, 18.5)	16.7 (12.3, 21.0)	13.2 (8.5, 18.0)	14.3 (8.8, 19.8)	0.16 ^b
Time × time	—	0.91	0.79	0.37	0.38	0.72	0.55	0.75 ^c
Creatinine (mg/dl)								
Hemodialysis	8.0 (7.8, 8.2)	8.0 (7.9, 8.2)	8.1 (7.9, 8.2)	8.0 (7.9, 8.2)	8.1 (7.9, 8.3)	7.9 (7.6, 8.1)	7.9 (7.7, 8.1)	0.90 ^a
OL-HDF	8.1 (7.8, 8.3)	7.9 (7.7, 8.0)	8.0 (7.8, 8.1)	8.1 (8.0, 8.3)	8.1 (7.9, 8.3)	7.9 (7.7, 8.1)	8.0 (7.8, 8.2)	0.002 ^b
Time × time	—	0.14	0.32	0.40	0.87	0.82	0.62	0.77 ^c
Sodium (mmol/L)								
Hemodialysis	138.7 (138.4, 139.0)	138.4 (138.1, 138.7)	138.4 (138.1, 138.7)	138.4 (138.1, 138.8)	138.7 (138.3, 139.1)	138.7 (138.3, 139.1)	138.3 (137.8, 138.8)	0.07 ^a
OL-HDF	138.8 (138.5, 139.1)	138.9 (138.6, 139.2)	138.5 (138.2, 138.8)	138.8 (138.4, 139.1)	138.9 (138.5, 139.2)	138.6 (138.2, 139.0)	138.3 (137.8, 138.8)	0.002 ^b
Time × time	—	0.02	0.72	0.14	0.62	0.72	0.96	0.56 ^c
Potassium (mmol/L)								
Hemodialysis	5.3 (5.2, 5.4)	5.3 (5.2, 5.4)	5.3 (5.2, 5.3)	5.2 (5.1, 5.3)	5.2 (5.2, 5.3)	5.2 (5.1, 5.3)	5.1 (5.0, 5.3)	0.20 ^a
OL-HDF	5.2 (5.2, 5.3)	5.2 (5.1, 5.2)	5.2 (5.1, 5.2)	5.2 (5.1, 5.3)	5.3 (5.2, 5.4)	5.2 (5.1, 5.3)	5.1 (5.0, 5.2)	0.51 ^b
Time × time	—	0.03	0.14	0.54	0.74	0.46	0.94	0.40 ^c
Uric acid (mg/dl)								
Hemodialysis	5.5 (5.4, 5.6)	5.8 (5.6, 5.9)	5.8 (5.6, 5.9)	5.6 (5.4, 5.7)	5.8 (5.6, 5.9)	5.6 (5.4, 5.8)	5.8 (5.5, 6.0)	0.95 ^a
OL-HDF	5.6 (5.5, 5.7)	5.6 (5.4, 5.7)	5.6 (5.4, 5.7)	5.6 (5.5, 5.8)	5.8 (5.6, 5.9)	5.7 (5.5, 5.9)	5.8 (5.6, 6.1)	0.07 ^b
Time × time	—	0.03	0.04	0.71	0.81	0.57	0.67	0.24 ^c
Calcium (mg/dl)								
Hemodialysis	9.1 (9.0, 9.2)	9.1 (9.0, 9.1)	9.1 (9.0, 9.1)	9.0 (9.0, 9.1)	9.0 (8.9, 9.0)	9.0 (8.9, 9.1)	9.0 (8.9, 9.1)	0.42 ^a
OL-HDF	9.1 (9.0, 9.1)	9.1 (9.0, 9.1)	9.1 (9.0, 9.2)	9.1 (9.0, 9.2)	9.0 (8.9, 9.0)	9.0 (8.9, 9.1)	9.1 (9.0, 9.2)	0.01 ^b
Time × time	—	0.87	0.54	0.17	0.95	0.38	0.07	0.58 ^c

iPTH (pg/ml)								
Hemodialysis	280 (256, 305)	285 (256, 304)	280 (256, 304)	264 (237, 290)	288 (259, 317)	272 (240, 303)	288 (253, 322)	0.84 ^a
OL-HDF	261 (240, 281)	253 (230, 292)	268 (244, 292)	261 (235, 287)	286 (257, 315)	281 (250, 312)	313 (281, 346)	0.004 ^a
Time × time	—	0.05	0.50	0.89	0.94	0.67	0.29	0.36 ^b

Data are shown for every 6 months but were collected every 3 months. Analysis was conducted using a mixed model for repeated measures. Data are presented as the mean (95% CI) at baseline and least-squares mean (95% CI) at 6 months, 12 months, 18 months, 24 months, 30 months, and 36 months. Time × time indicates time × time comparisons, which are given as *P* values. CRP, C-reactive protein; iPTH, intact parathyroid hormone.

^a*P* value for treatment effect.

^b*P* value for time effect.

Table 4. Risk of all-cause mortality results by achieved convective volume, convective volume/BMI, and convective volume/BSA

	Hemodialysis	OL-HDF			<i>P</i> ^a	<i>P</i> ^b
		Tertile 1	Tertile 2	Tertile 3		
Convective volume (L/session)		<23.1	23.1–25.4	>25.4		
<i>n</i> (%)	124 (26.4)	33 (22.9)	27 (18.2)	23 (16.0)	0.03	0.003
HR (95% CI)	Ref.	0.90 (0.61–1.31)	0.60 (0.39–0.9)	0.55 (0.34–0.84)	0.01	0.001
Convective volume/BMI (L/kg per m ²)		<0.9	0.9–1.1	>1.1		
<i>n</i> (%)	124 (26.4)	25 (17.2)	32 (21.9)	26 (17.9)	0.05	0.03
HR (95% CI)	Ref.	0.62 (0.4–0.94)	0.74 (0.49–1.08)	0.66 (0.42–0.99)	0.04	0.02
Convective volume/BSA (L/m ²)		<13.2	13.2–14.8	>14.8		
<i>n</i> (%)	124 (26.4)	29 (20.0)	29 (19.9)	25 (17.2)	0.06	0.01
HR (95% CI)	Ref.	0.75 (0.49–1.11)	0.66 (0.43–0.98)	0.62 (0.39–0.93)	0.04	0.01

n (%) indicates the number of exitus (% of exitus from total of group participants). BMI, body mass index; BSA, body surface area.

^a*P* value for the statistical significance test (Fisher's exact test; log-rank test).

^b*P* value for the trend test (Cochran-Armitage trend test; log-rank test).