



Supplemental Materials for

The Effect of Glycated Hemoglobin and Albumin-corrected Glycated Serum Protein on Mortality in Diabetic Patients Receiving Continuous Peritoneal Dialysis

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Supplemental Table 1. Demographic, clinical, and laboratory characteristics in diabetic PD patients with and without HbA1c or GSP.

Variables	Diabetic patients with	Diabetic patients	P Value
	HbA1c and GSP n = 200	without HbA1c or GSP n = 45	
Age (years)	60.3 ± 10.6	61.8 ± 11.8	0.40
Male, n (%)	119 (60%)	23 (51%)	0.34
Follow-up duration (months)	29.0 ± 15.6	27.4 ± 15.5	0.82
BMI (kg/m ²)	22.5 ± 2.8	20.4 ± 6.5	0.27
CVD, n (%)	81 (35%)	15 (33%)	0.24



Hypertension, n (%)	153 (77%)	33 (73%)	0.28
Methods of glycemetic control			0.79
Usage of Insulin	181 (90%)	41 (91%)	
Oral glucose control agents	3 (2%)	1(2%)	
Combined	16 (8%)	3 (7%)	
Usage of EPO, n, %	191 (96%)	42 (93%)	0.77
Hemoglobin (g/L)	101.0 ± 13.7	98.0 ± 16.7	0.69
Glucose (mg/dl)	7.48 ± 2.35	7.22 ± 1.81	0.87
Albumin (g/L)	34.9 ± 3.5	33.7 ± 3.5	0.38
Phosphorus (mmol/L)	1.59 ± 0.71	1.44 ± 0.48	0.41
HsCRP ^a (mg/L)	5.34 (2.24-9.96)	4.75 (1.15-10.11)	0.39
Total triglycerides (mmol/L)	2.16 ± 1.41	1.99 ± 1.68	0.54
Total cholesterol (mmol/L)	5.44 ± 2.49	5.32 ± 1.81	0.81
Total Kt/v	2.46 ± 0.62	2.53 ± 0.75	0.33

Data expressed as mean ± SD.

^a Median (interquartile range)



Abbreviations: HbA1c, glycated hemoglobin; GSP, glycated serum proteins; BMI, body mass index; CVD, cardiovascular disease; EPO, erythropoietin; HsCRP, hypersensitive C reaction protein.

Conversion factors for units: glucose in mmol/L to mg/dL, $\times 18.149$; phosphorus in mmol/L to mg/dL, $\times 3.097$; triglycerides in mmol/L to mg/dL, $\times 88.496$; total cholesterol in mmol/L to mg/dL, $\times 3.861$



Supplemental Table 2. Baseline characteristics of patients stratified by HbA1c categories

Variable	HbA1c≤5.9%	6.0≤HbA1c≤6.9%	7.0%≤HbA1c≤7.9%	HbA1c≥8%	P Value
	(n=61)	(n=59)	(n=48)	(n=32)	
Age, years	60.1 ± 9.8	58.7 ± 12.2	61.9±10.2	60.9 ± 9.6	0.47
Male gender	38 (62%)	38 (64%)	24 (50%)	19 (59%)	0.46
Follow-up duration, months	27.67 ± 14.24	30.17 ± 15.98	29.61 ± 13.89	28.61± 13.92	0.82
BMI(kg/m ²)	22.43 ± 2.86	22.97 ± 3.12	22.04 ± 2.98	22.60 ± 1.96	0.41
CVD	20 (33%)	23 (39%)	22 (46%)	16 (50%)	0.34
Hypertension	44 (72%)	49 (83%)	41 (85%)	19 (59%)	0.03
Methods of glycemic control					0.65
Insulin	55(90%)	54 (91%)	42 (88%)	30(94%)	
Oral hypoglycemic agent	2 (3%)	1 (2%)	0 (0%)	0 (0%)	
Combined	4 (7%)	4 (7%)	6 (13%)	2 (6 %)	



Usage of EPO, n, %	57 (93%)	57 (97%)	48(96%)	31 (97%)	0.82
Hemoglobin (g/L)	97.5 ± 15.4	101.1 ± 12.3	102.8 ± 13.3	104.7 ± 12.2	0.07
Glucose (mmol/L)	6.20 ± 1.65	6.66 ± 1.77	8.68 ± 2.29	9.29 ± 2.53	<0.001
HbA1c(%)	5.4 ± 0.4	6.4 ± 0.3	7.3 ± 0.3	9.1 ± 1.0	<0.001
GSP(μmol/L)	177 ± 60	182 ± 52	221 ± 61	258 ± 85	<0.001
Alb-GSP((μmol/g)	5.09 ± 1.67	5.21 ± 1.37	6.25 ± 1.68	7.43 ± 2.46	<0.001
Albumin (g/L)	34.7 ± 3.9	34.8± 3.3	35.3 ± 3.7	34.9 ± 2.8	0.82
Phosphorus (mmol/L)	1.57 ± 0.38	1.57 ± 0.32	1.54 ± 0.31	1.78 ± 1.62	0.44
HsCRP ^a (mg/L)	5.33 (2.16-10.23)	3.64 (1.82-7.40)	6.27 (2.59-10.40)	6.15 (3.12-11.17)	0.26
Total triglycerides (mmol/L)	2.10 ± 1.46	1.89 ± 0.85	2.21 ± 1.31	2.70 ± 2.06	0.07
Total cholesterol (mmol/L)	5.73 ± 4.08	5.20 ± 1.31	5.35 ± 1.26	5.46 ± 1.23	0.70
Total Kt/v	2.31 ± 0.47	2.55 ± 0.56	2.50 ± 0.82	2.51 ± 0.58	0.19

Data expressed as mean ± SD.



^a Median (interquartile range)

Abbreviations: HbA1c, glycated hemoglobin; GSP, glycated serum proteins; BMI, body mass index; CVD, cardiovascular disease; EPO, erythropoietin; HsCRP, hypersensitive C reaction protein.

Conversion factors for units: glucose in mmol/L to mg/dL, $\times 18.149$; phosphorus in mmol/L to mg/dL, $\times 3.097$; triglycerides in mmol/L to mg/dL, $\times 88.496$; total cholesterol in mmol/L to mg/dL, $\times 3.861$



Supplemental Table 3. Baseline characteristics of patients stratified by GSP categories

Variable	GSP≤145	146≤GSP ≤190	191≤GSP ≤235	GSP ≥236	P Value
	(μmol/L)(n=47)	(μmol/L) (n=51)	(μmol/L) (n=53)	(μmol/L) (n=49)	
Age, years	58.9 ± 11.2	59.3 ± 11.9	61.1± 9.2	61.2±10.1	0.60
Male gender	23 (61%)	35 (63%)	33(64%)	28 (52%)	0.60
Follow-up duration, months	24.54 ± 12.84	29.38 ± 16.23	31.54 ± 13.50	28.99±14.57	0.82
BMI(kg/m ²)	22.57 ± 2.78	22.71± 2.81	22.65 ± 3.21	22.17 ± 2.60	0.75
CVD	13 (34%)	24 (43%)	19(37%)	25 (36 %)	0.61
Hypertension	26 (68%)	42 (75%)	44 (85%)	41 (76%)	0.34
Methods of glyceimic control					0.59
Insulin	34(90%)	48 (86%)	49 (94 %)	50(93%)	
Oral hypoglycemic agent	1 (3%)	2 (4%)	0 (0%)	0 (0%)	
Combined	3(8%)	6(11%)	3 (6%)	4 (7%)	
Usage of EPO, n, %	35 (92.1%)	55 (98.2%)	48(92.1%)	53(98.1%)	0.82
Hemoglobin (g/L)	96.7 ± 12.6	100.9 ± 15.7	102.9 ± 12.6	102.1 ± 13.0	0.17
Glucose (mmol/L)	6.79 ± 1.82	6.81 ± 1.34	7.34 ± 2.29	8.59 ± 2.97	<0.001



HbA1c(%)	6.1 ± 1.1	6.6 ± 1.1	6.8 ± 1.2	7.4 ± 1.5	<0.001
GSP(μmol/L)	119 ± 22	167 ± 13	208 ± 12	290 ± 66	<0.001
Alb-GSP(μmol/g)	3.70 ± 0.71	4.88 ± 0.57	5.80 ± 0.53	8.14 ± 1.87	<0.001
Albumin (g/L)	33.2 ± 3.5	34.6 ± 3.2	36.1 ± 2.8	36.0 ± 3.5	<0.001
Phosphorus (mmol/L)	1.46 ± 0.26	1.72 ± 1.25	1.67 ± 0.32	1.50 ± 0.32	0.20
HsCRP ^a (mg/L)	4.65 (1.35 -11.01)	6.20 (1.87-10.63)	4.69 (2.29-9.15)	5.40 (2.72-8.75)	0.85
Total triglycerides (mmol/L)	2.04 ± 1.58	2.20 ± 1.37	2.16 ± 1.58	2.20 ± 1.17	0.94
Total cholesterol (mmol/L)	5.84 ± 5.01	5.17 ± 1.22	5.57 ± 1.74	5.31 ± 1.00	0.58
Total Kt/v	2.31 ± 0.47	2.55 ± 0.56	2.50 ± 0.82	2.51 ± 0.58	0.24

Data expressed as mean ± SD.

^a Median (interquartile range)

Abbreviations: HbA1c, glycated hemoglobin; GSP, glycated serum proteins; BMI, body mass index; CVD, cardiovascular disease; EPO, erythropoietin; HsCRP, hypersensitive C reaction protein.

Conversion factors for units: glucose in mmol/L to mg/dL, ×18.149; phosphorus in mmol/L to mg/dL, ×3.097; triglycerides in mmol/L to mg/dL, ×88.496; total cholesterol in mmol/L to mg/dL, ×3.861



Supplemental Table 4. Baseline characteristics of patients stratified by Alb-GSP categories

Variable	Alb-GSP \leq 4.50 μ mol/g n=48	4.51 \leq Alb-GSP \leq 5.50 μ mol/g n=56	5.51 \leq Alb-GSP \leq 6.50 μ mol/g n=44	Alb-GSP \geq 6.51 μ mol/g n=52	P Value
Age, years	58.9 \pm 10.8	59.9 \pm 11.9	60.5 \pm 9.8	61.7 \pm 9.8	0.60
Male gender	30 (63%)	35 (63%)	27(61%)	27 (52%)	0.64
Follow-up duration, months	27.47 \pm 15.49	30.03 \pm 14.37	27.28 \pm 14.40	30.72 \pm 14.19	0.82
BMI(kg/m ²)	22.74 \pm 2.64	23.21 \pm 3.17	22.02 \pm 2.81	22.52 \pm 2.85	0.09
CVD	21(44%)	21 (38%)	17(39%)	22 (32%)	0.91
Hypertension	34(71%)	43 (77%)	37(84%)	39 (75%)	0.34
Methods of glycemic control					0.17
Insulin	43(90%)	47 (84%)	43 (98%)	48(92%)	
Oral hypoglycemic agent	2 (4%)	2 (2%)	0 (0%)	0 (0%)	
Combined	3(6%)	8(14%)	1 (2%)	4 (8%)	



Usage of EPO, n, %	45 (94%)	54 (96%)	41(93%)	51(98%)	0.61
Hemoglobin (g/L)	99.13 ± 12.7	101.6 ± 15.0	100.4 ± 13.8	102.4 ± 13.1	0.65
Glucose (mmol/L)	6.70 ± 2.00	6.80 ± 1.63	7.52 ± 1.99	8.70 ± 3.02	<0.00
HbA1c(%)	6.3 ± 1.1	6.6 ± 1.2	6.9 ± 1.05	7.5 ± 1.5	<0.00
GSP(μmol/L)	128 ± 27	177± 22	211 ± 23	289 ± 59	<0.00
Alb-GSP((μmol/g)	3.76 ± 0.61	5.05 ± 0.29	5.96 ± 0.31	8.28 ± 1.81	<0.00
Albumin (g/L)	34.0 ± 3.6	35.1 ± 3.5	35.4 ± 3.6	35.1 ± 3.2	0.21
Phosphorus (mmol/L)	1.56 ± 0.35	1.71 ± 1.24	1.64 ± 0.36	1.47 ± 0.28	0.35
HsCRP ^a (mg/L)	6.68 (2.27 -10.81)	5.08 (2.05-10.01)	5.25 (2.69-9.32)	5.31 (2.17-5.31)	0.65
Total triglycerides (mmol/L)	2.21 ± 1.57	2.13 ± 1.18	2.21 ± 1.78	2.12± 1.15	0.98
Total cholesterol (mmol/L)	5.81 ± 4.54	5.20 ± 0.86	5.63 ± 1.87	5.20 ± 1.06	0.52
Total Kt/v	2.40 ± 0.53	2.42 ± 0.62	2.40 ± 0.55	2.60 ± 0.72	0.27

Data expressed as mean ± SD.

^a Median (interquartile range)



Conversion factors for units: glucose in mmol/L to mg/dL, $\times 18.149$; phosphorus in mmol/L to mg/dL, $\times 3.097$; triglycerides in mmol/L to mg/dL, $\times 88.496$; total cholesterol in mmol/L to mg/dL, $\times 3.861$

Abbreviations: HbA1c, glycated hemoglobin; GSP, glycated serum proteins; BMI, body mass index; CVD, cardiovascular disease; EPO, erythropoietin; HsCRP, hypersensitive C reaction protein.



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