

Table 1: Baseline characteristics of the study subjects

	Calcium acetate (n = 25)	Sevelamer Carbonate (n = 25)
Age, years (mean \pm SD)	69.26 \pm 8.52	67.4 \pm 7.77
Sex, male/female	14/11	13/12
Race, Caucasian/Black	19/6	20/5
eGFR (mL/min/1.73m ²)	38.26 \pm 11.21	37.6 \pm 612.6
Height (cm)	171.60 \pm 7.82	172.21 \pm 6.80
Weight (kg)	99.11 \pm 23.31	103.29 \pm 20.13
BMI (kg/m ²)	33.60 \pm 7.06	35.09 \pm 7.92

Patients with comparable functions Chronic Kidney Disease (CKD) Stages 3 and 4 were randomized among the two arms of the study with regards to Diabetes mellites, Hypertension, and Glomerulonephritis.

Table 2: Changes in markers of mineral metabolism at baseline and after 12 weeks of treatment with calcium acetate or sevelamer carbonate

	Calcium acetate		Sevelamer carbonate	
	Baseline	Week 12	Baseline	Week 12
Calcium (mg/dL)	9.5 ± 0.11	9.7 ± 0.13*	9.6 ± 0.12	9.5 ± 0.10
Phosphate (mg/dL)	3.7 ± 0.73	3.7 ± 0.17	3.3 ± 0.70	3.4 ± 0.16
FGF-23 (pg/L)	106.4 ± 23.9	101.1 ± 19.8	112.8 ± 25.9	96.3 ± 13.99*
Calcidiol (ng/mL)	23.9 ± 3.0	27.5 ± 2.7**	31.4 ± 3.1	28.9 ± 3.5*
Calcitriol (pg/mL)	35.6 ± 3.9	36.8 ± 3.8	44.4 ± 4.1	38.4 ± 3.9**
Ca x P (mg ² /dL ²)	35.8 ± 1.94	36.71 ± 1.94	32.03 ± 1.7	32.97 ± 1.56
PTH (pg/mL)	70.8 ± 14.1	51.2 ± 11.09**	58.0 ± 5.34	66.2 ± 5.36

FGF-23, Fibroblast growth factor 23; Ca x P, Calcium x Phosphate; PTH, Parathyroid.

*All data are mean ± SD *P <0.05, **P <0.01.*

Table 3: Serum lipids at baseline and after 12 weeks of treatment

	Calcium acetate		Sevelamer Carbonate	
	Baseline	Week 12	Baseline	Week 12
Total cholesterol (mg/dL)	171.4 ± 11.0	167.3 ± 12.2	153.7 ± 7.468	138.2 ± 7.3***
HDL-C (mg/dL)	44.87 ± 5.6	46.8 ± 5.7	41.27 ± 2.5	44.13 ± 2.5*
Triglyceride (mg/dL)	178.2 ± 29.0	166.9 ± 20.1	143 ± 14.14	145.5 ± 18.0
LDL-C (mg/dL)	92.21 ± 6.5	87 ± 8.2*	84 ± 6.7	65 ± 6.5***

HDL-C, high-density-lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol.

*All data are mean ± S.D. **P <0.01, ***P <0.001.*

Table 4: Changes in inflammatory cytokines at baseline and after 12 weeks of treatment with calcium acetate or sevelamer carbonate

	Calcium acetate		Sevelamer carbonate	
	Baseline	Week 12	Baseline	Week 12
IL-6 (pg/mL)	4.79 ± 0.1	6.1 ± 0.9**	5.2 ± 0.3	5.0 ± 0.3
IL-8 (pg/mL)	51.7 ± 8.6	29.7 ± 11.6***	75.9 ± 17.7	18.3 ± 6.4***
IL-10 (pg/mL)	14.9 ± 9.5	10.6 ± 1.92	9.4 ± 3.6	4.8 ± 0.9***
IFN-γ (pg/mL)	73.7 ± 17.9	46.7 ± 11.9***	191.3 ± 13.7	51.4 ± 7.9**
TNF-α (pg/mL)	17.2 ± 2.5	7.8 ± 1.9***	15.3 ± 3.4	12.7 ± 2.8*
CRP	6.3 ± 0.9	6.6 ± 0.9	6.8 ± 1.0	6.0 ± 1.1*

*IL, Interleukin; IFN-γ, Interferon gamma; TNF-α, Tissue necrosis factor-alpha; CRP, C-Reactive Protein. All data are mean ± SD, *P <0.05, **P <0.01, ***P <0.001.*

Table 5: Changes in levels of endothelial markers at baseline and after 12 weeks of treatment with calcium acetate or sevelamer carbonate

	Calcium acetate		Sevelamer carbonate	
	Baseline	Week 12	Baseline	Week 12
ICAM-1 (ng/mL)	229.96 ± 43.1	222.9 ± 49.3	166.4 ± 15.3	180.9 ± 11.8**
VCAM-1 (ng/mL)	775.1 ± 73.9	754.3 ± 56.7	636.2 ± 62.6	820.8 ± 120.9***
P-Selectin (ng/mL)	27.9 ± 1.7	27.7 ± 1.5	26.057 ± 2.343	25.6 ± 2.1
E-Selectin (ng/mL)	27.2 ± 2.4	25.5 ± 1.8*	22.9 ± 1.7	26.8 ± 4.4**
L-Selectin (ng/mL)	507.4 ± 49.9	508.7 ± 24.6	500.7 ± 25.1	521.3 ± 27.8*

ICAM-1, Intracellular cell adhesion molecule; VCAM-1, Vascular cell adhesion molecule.

All data are mean ± SD, **P* <0.05, ***P* <0.01, ****P* <0.001.

Table 6: Changes in levels in vascular calcification markers at baseline and after 12 weeks of treatment with calcium acetate and sevelamer carbonate

	Calcium acetate		Sevelamer carbonate	
	Baseline	Week 12	Baseline	Week 12
OPG (pg/mL)	2409 ± 188	2437 ± 201.4	2813 ± 612.6	2817 ± 489.4
SOST (pg/mL)	234.4 ± 26.8	213.1 ± 27.39*	213.1 ± 27.18	208.3 ± 26.08*
TRAcP5b (U/L)	3.00 ± 0.21	2.69 ± 0.17**	3.07 ± 0.21	3.05 ± 0.22
AlkPO4 (IU/L)	60.53 ± 5.23	56.73 ± 4.24*	68.6 ± 5.65	79.6 ± 6.52***

OPG, Osteoprotegerin; SOST, Serum sclerostin; TRAcP5b, serum tartrate-resistant acid phosphatase; AlkPO4, Alkaline phosphate; All data are mean ± SD, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.