



EVALUATION OF CONCORDANCE BETWEEN DIALYSATE/PLASMA (D/P) PHOSPHORUS AND D/P CREATININE IN PERITONEAL DIALYSIS

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BACKGROUND

Chronic kidney disease-mineral and bone disorder (CKD-MBD) has been associated with vascular calcification and constitutes an independent predictor of cardiovascular mortality. The progressive residual renal function (RRF) lost in peritoneal dialysis (PD) leads to harder control of serum phosphorus. Traditionally, creatinine clearance (CrCl) and dialysate/plasma creatinine (D/P Cr) have been considered to provide a good estimate of phosphorus clearance (PCI) and dialysate/plasma phosphorus (D/P P), but latest studies are revealing discordant results.

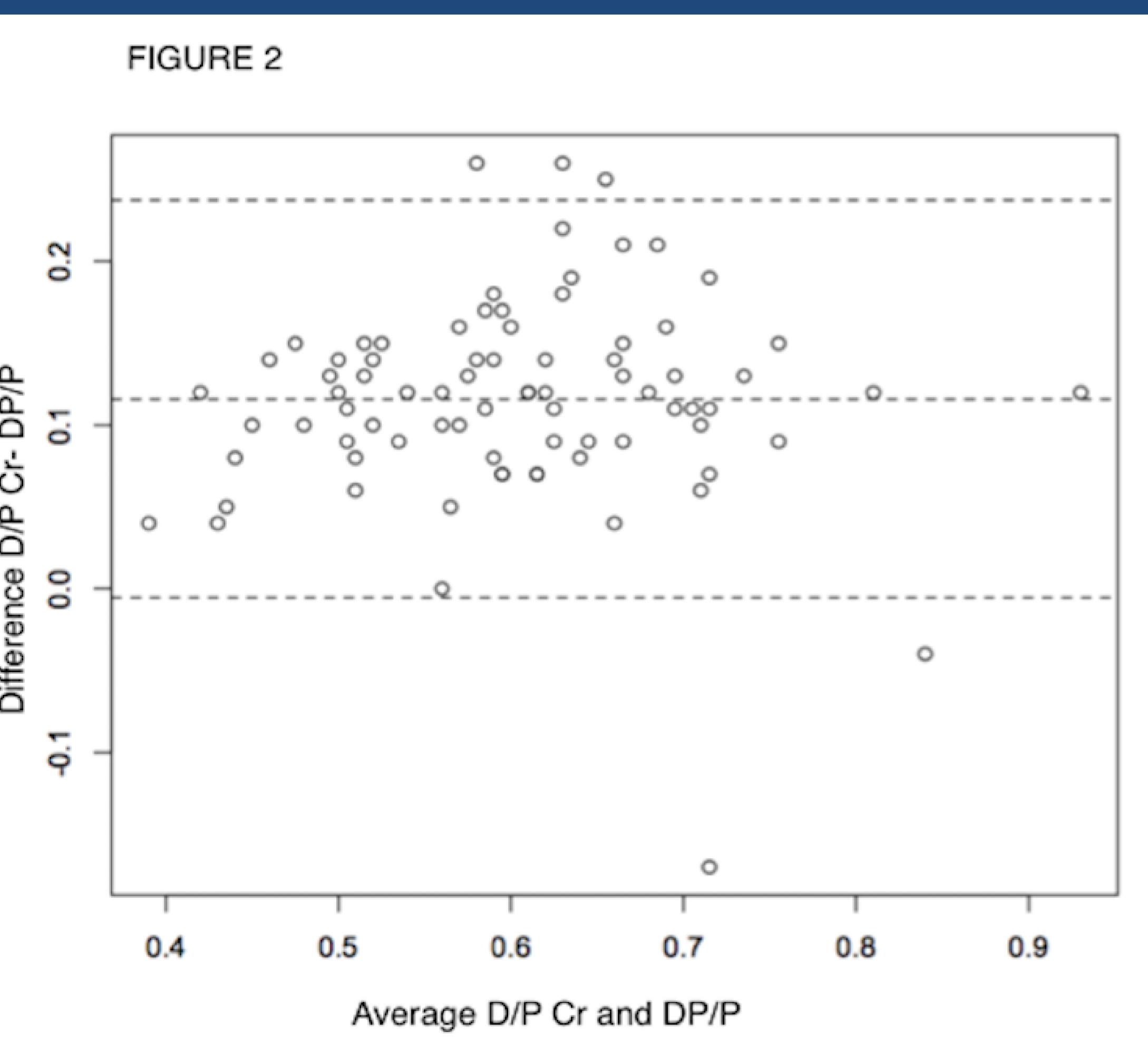
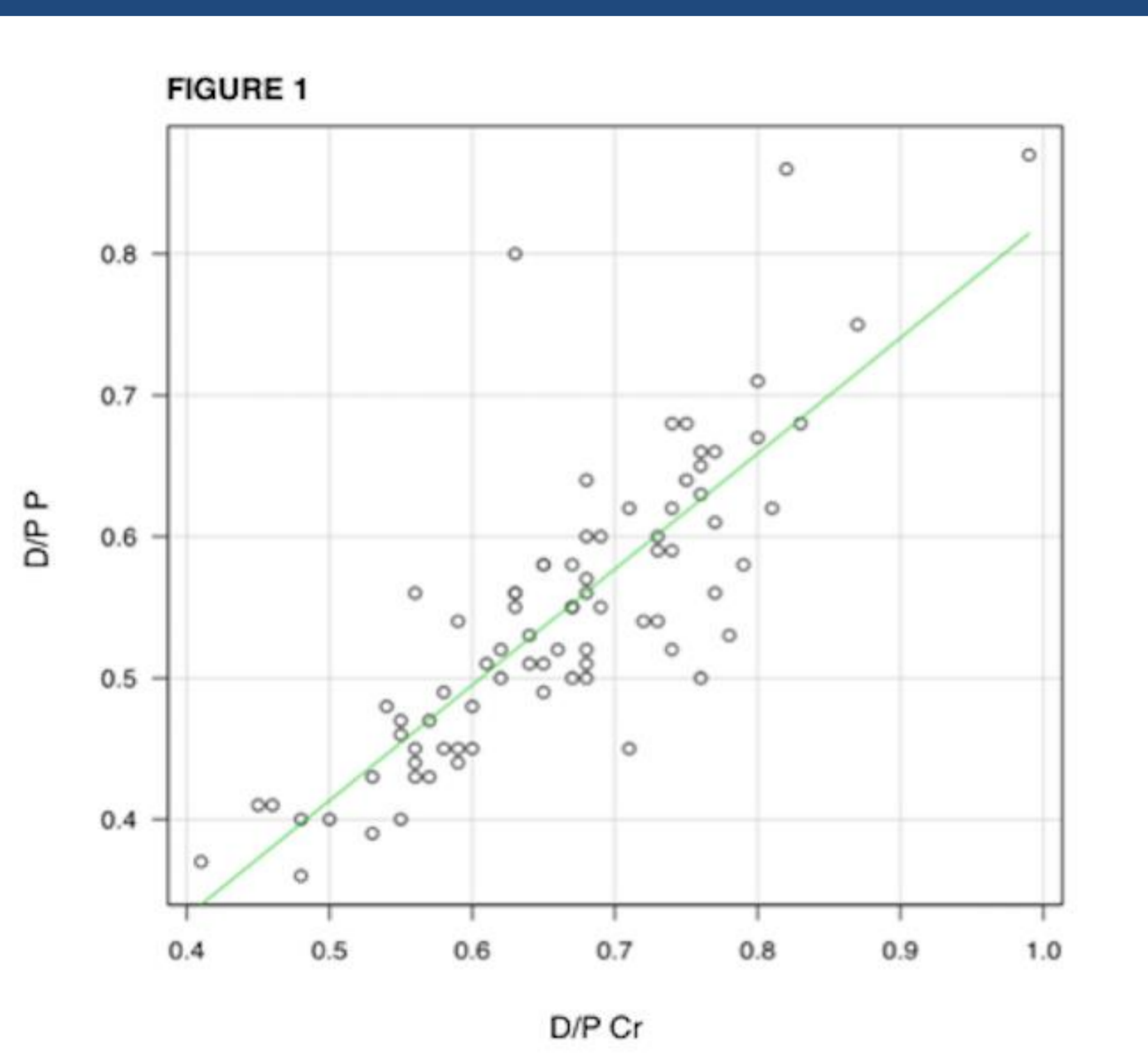
OBJECTIVES

To evaluate the concordance between D/P P and D/P Cr in DP patients.
To analyze factors involved in CKD-MBD of our PD patients.

METHODS

A single-center retrospective study in DP patients to evaluate the following parameters: CrCl, PCI, D/P Cr, D/P P, serum calcium, serum phosphorus (P), albumin, parathyroid hormone, KT/V, residual renal function (RRF), peritoneal volume and normalized protein catabolic rate (PCRn).

RESULTS



	No anuric (n=62) Diuresis > 200cc		Anuric (n=18)		TOTAL (n=80)
	P ≤5.5 mg/dL (n=43)	P >5.5 mg/dL (n=19)	P ≤5.5 mg/dL (n=10)	P >5.5mg/dL (n=8)	
Age (years)	54	51	53	48	53
Sex (Male) (%)	65	75	30	75	64
Diabetes (%)	37	11	42	12	29
Calcium (mg/dL)	9.2 ⁺	9.5 ⁺	9.8 ⁺	9.4 ⁺	9.4
Phosphorus (mg/dL)	4.5	6.5	4.3	6.62	5.45
Albumin (g/dL)	3.76	3.85	3.87	3.87	3.8
PTH-KDOQUI	209.71 ⁺	348.78 ⁺	149.9 ⁺	356.12 ⁺	249.16
CI _{Cr} weekly (ml/min)	93,51 ⁺	87,08 ⁺	51,12 ⁺	48,81 ⁺	82,94
CIP weekly (ml/min)	51,2 ⁺	55,22 ⁺	28,78 ⁺	25,75 ⁺	46,81
KT/V total	2.58	2.35	2.04 ⁺	1.88 ⁺	2.39
RRF	5.89	5.87			4.59
Peritoneal volume (ml)	9230	9973	11754	13262	10125
PCRn (g/kg/day)	1.07 ⁺	1.14 ⁺	0.82 ⁺	0.88 ⁺	1.04
D/P Cr	0.67	0.66	0.69	0.60	0.66
D/P P	0.54	0.55 ⁺	0.59	0.49 ⁺	0.55

⁺p-value <0.05

Patients with RRF had lower calcemia and higher CrCl and PCI compared to anuric patients. Those patients with adequate phosphorus and RRF had lower D/P P. And anuric patients with adequate serum phosphorus had higher KT/V with lower protein intake. There were no differences in peritoneal fluid volume or D/P Cr.

A correlation between parameters, both in between D/P P and D/P Cr ($r = 0.824$ $p < 0.0001$) and in between PCI and CrCl ($r = 0.861$ $p < 0.0001$), was found. Moreover, there was a good concordance. (Figure 1 and 2)

CONCLUSIONS

Although other studies impulse to promote the D/P P and PCI in the clinical management of phosphorus and mineral and bone disorder to patients in peritoneal dialysis, the present study shows that the grade of correlation, between D/P P and D/P Cr and PCI and CrCl, have a good concordance.

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