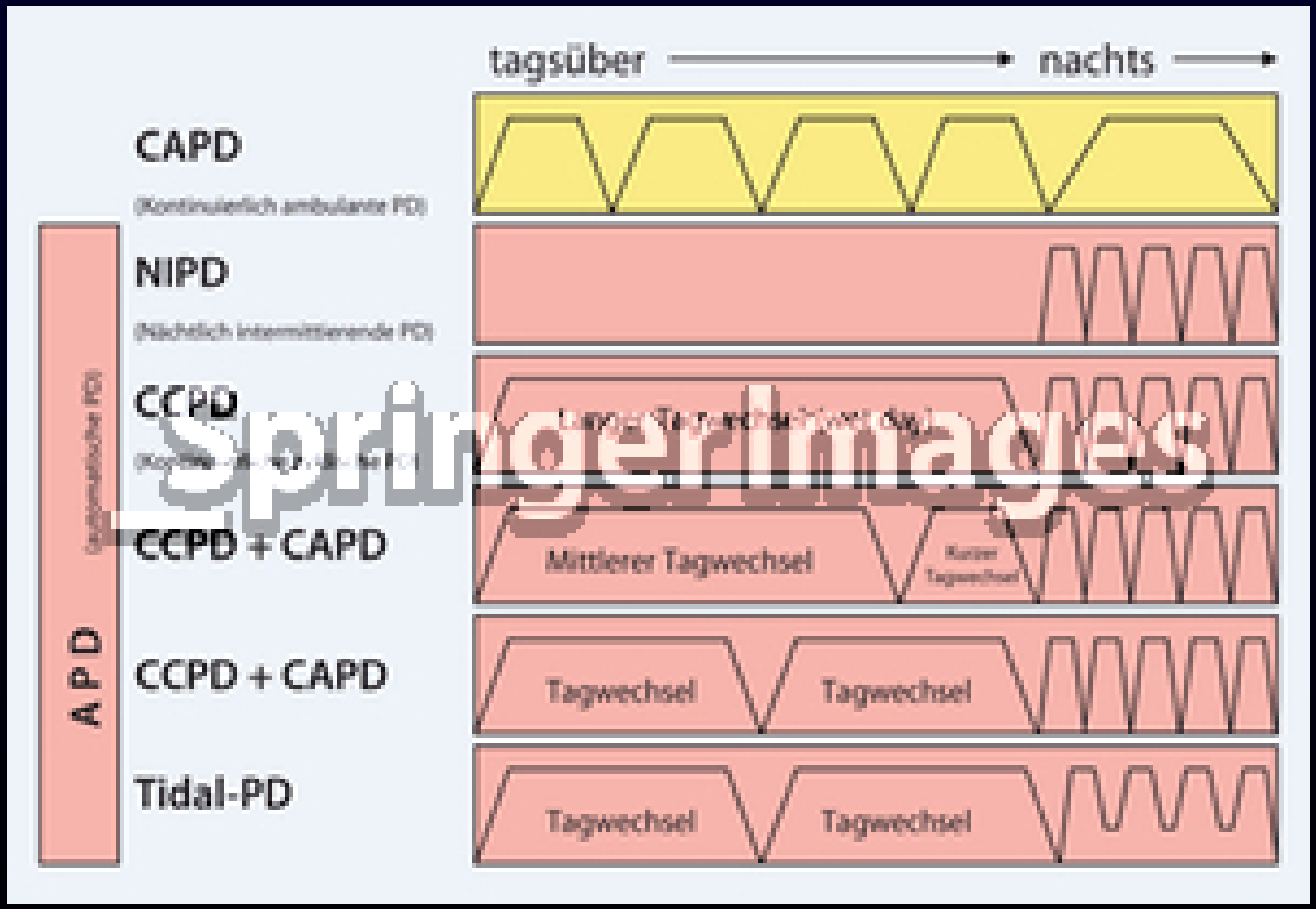

tagsüber
nachts
CAPD
(Kontinuierlich ambulante PD)
NIPD
(Nächtlich intermittierende PD)
CCPD
CCPD + CAPD
Mittlerer Tagwechsel
Kurzer Tagwechsel
CCPD + CAPD
Tagwechsel
Tagwechsel
Tidal-PD
Tagwechsel
Tagwechsel
APD
(automatische PD)

Peritoneal phosphate clearance

NIPD is inferior to that on CAPD

Because of the time- dependent removal of phosphate.

High-flow CCPD may produce a marginal increase in peritoneal phosphate clearance, but that increase is not more than can be accomplished by adding a midday exchange to standard CCPD.

Standard CCPD and CAPD do not appear to have major differences.

Peritoneal phosphate clearance is influenced by peritoneal dialysis modality, independent of peritoneal transport characteristics.

Badve SV[1], Zimmerman DL, Knoll GA, Burns KD, McCormick BB.

Author information

Abstract

BACKGROUND AND OBJECTIVES: Hyperphosphatemia is an independent risk factor for mortality in ESRD, but factors regulating phosphate clearance on peritoneal dialysis (PD) are incompletely understood. The objective of this study was to test the hypothesis that peritoneal phosphate clearance is better with continuous ambulatory PD (CAPD) as compared with continuous cyclic PD (CCPD) after adjusting for membrane transport status.

DESIGN, SETTING, PARTICIPANTS, & MEASUREMENTS: In this cross-sectional and retrospective study, measurements of peritoneal phosphate clearance of 129 prevalent PD patients were reviewed. Patients were divided according to membrane transport status (high, high average, low average-low categories) and PD modality (CAPD or CCPD).

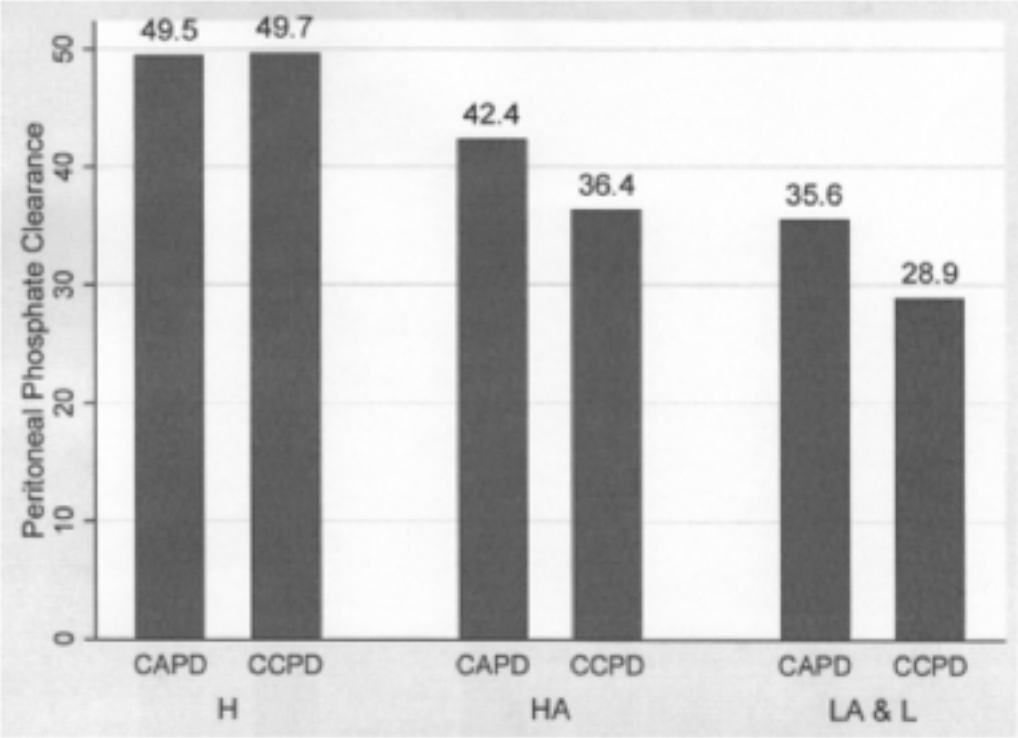
RESULTS: Among high transporters, peritoneal phosphate clearances were comparable in both modalities. However, treatment with CAPD was associated with increased peritoneal phosphate clearance compared with CCPD among high-average transporters (42.4 +/- 11.4 versus 36.4 +/- 8.3 L/wk/1.73 m(2), P = 0.01), and low-average-low transporters (35.6 +/- 5.9 versus 28.9 +/- 11 L/wk/1.73 m(2), P = 0.034). On multivariate linear regression, PD modality, membrane transport category, and peritoneal creatinine clearance, but not Kt/V urea, were independently associated with peritoneal phosphate clearance.

CONCLUSIONS: Peritoneal phosphate clearance is determined by PD modality and membrane transport category, suggesting that PD regimes with longer dwell times may help control hyperphosphatemia in lower transporters.

Clin J Am Soc Nephrol. Nov 2008; 3(6): 1711–1717.
doi: 10.2215/CJN.00190108

PMCID: PMC2572278

Peritoneal Phosphate Clearance is Influenced by Peritoneal Dialysis Modality, Independent of Peritoneal Transport Characteristics



Mean peritoneal phosphate clearance (L/wk/1.73 m^2 BSA) according to peritoneal membrane transport category and peritoneal dialysis modality. CAPD, continuous ambulatory peritoneal dialysis; CCPD, continuous cyclic peritoneal dialysis; H, high transport category; HA, high-average transport category, LA & L: combined low-average and low transport category.

Peritoneal phosphate removal varies by peritoneal dialysis regimen: an underestimated parameter of phosphate control.

Botelho C[1], Rodrigues A, Oliveira JC, Cabrita A.

Author information

Abstract

BACKGROUND: The optimization of phosphate (P) removal by peritoneal dialysis (PD) is often underestimated. Our objective was to investigate peritoneal P clearance and its relationship with standard adequacy targets, hyperphosphatemia and automated PD (APD) parameters.

METHODS: Dialysis dose, P clearances (24-hour urine and effluent samples), estimated percentage of diffusive P removal and peritoneal transport rate (PET) were evaluated in 77 adult prevalent PD patients.

RESULTS: Total P removal strongly correlated with residual renal function parameters, dissociated from peritoneal Kt/V urea ($r=-0.36$; $p=0.02$) and creatinine clearance ($r=-0.32$; $p<0.0001$). A correlation of P clearance with net ultrafiltration was not found. Among the variables studied, only renal and peritoneal P clearances were significantly lower in hyperphosphatemic patients. In APD, peritoneal phosphate clearance was positively correlated with 4-hour dialysate to plasma creatinine ratio ($r=0.46$; $p=0.039$). Slow transporters had higher peritoneal P clearances under continuous ambulatory PD (CAPD) regimens. Hyperphosphatemia was significantly associated with a lower number of APD cycles and shorter nightly therapy time, with insufficient dwell time individualization.

CONCLUSIONS: P peritoneal clearance is a modifiable parameter of P control in PD regimens and an additional adequacy target. Prescription skills are recommended in APD patients, particularly in anurics, to take into account peritoneal transport rate.

JNEPHROL 2013; 26(01): 183-190

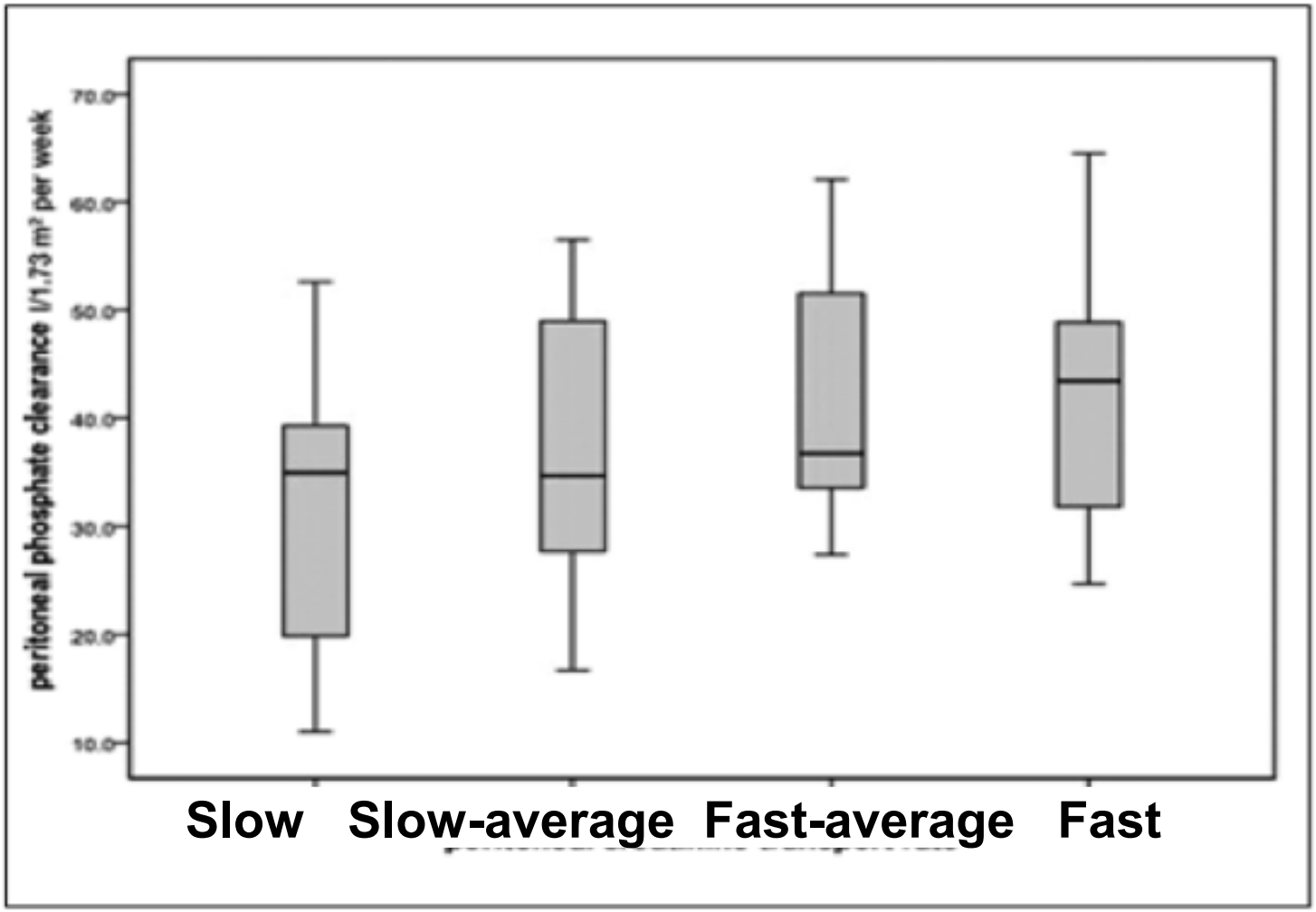


Fig. 1 - Mean peritoneal phosphate clearance according to peritoneal membrane transport characteristics (whiskers indicate SD).

JNEPHROL 2013; 26(01): 183-190

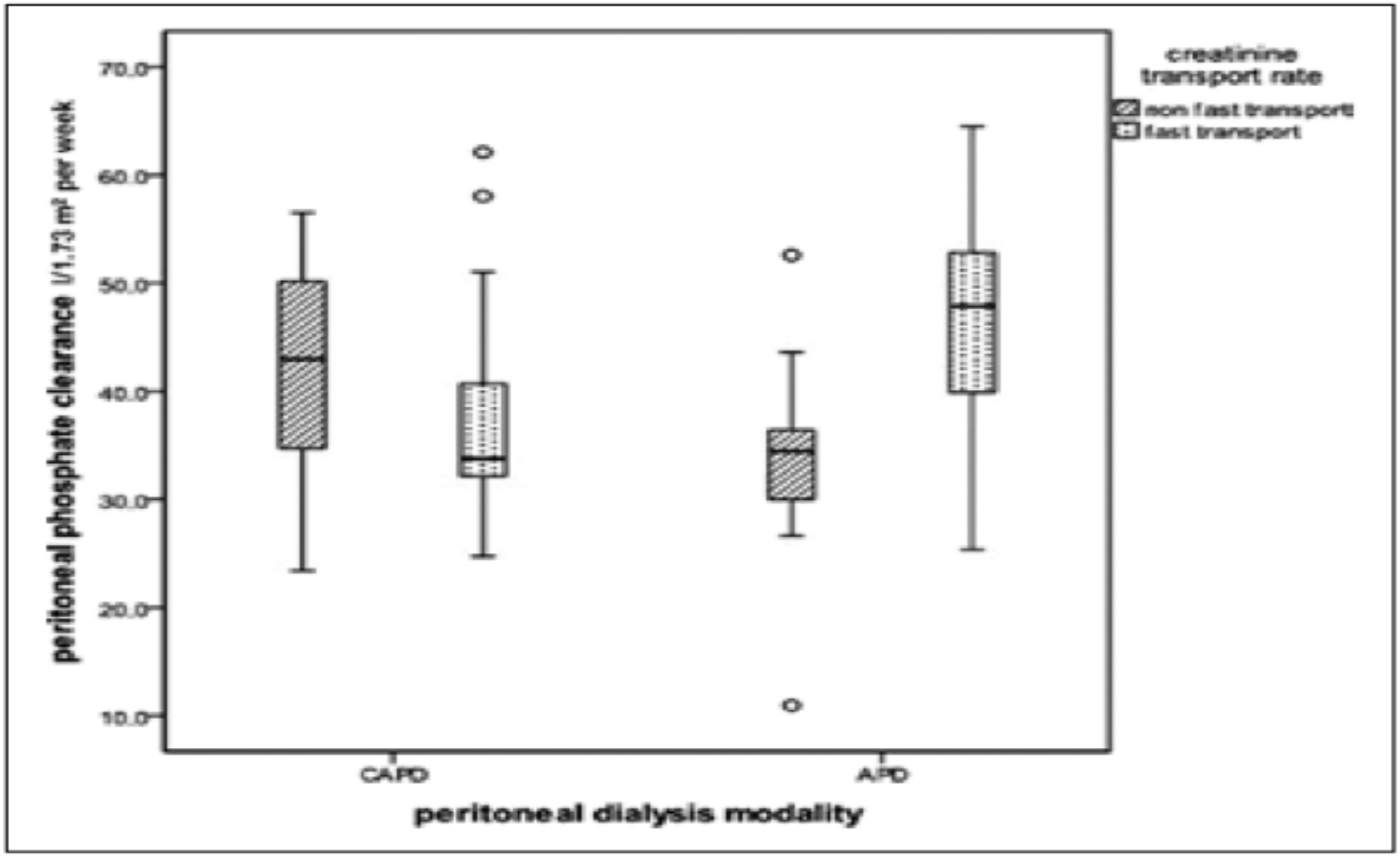


Fig. 2 - Mean peritoneal phosphate clearance according to peritoneal dialysis modality and peritoneal creatinine transport rate (non-fast transport or fast transport according to cutoff level of average D/P creatinine). APD = automated peritoneal dialysis; CAPD = continuous ambulatory peritoneal dialysis.

Adv Perit Dial. 2013;29:9-13.

Icodextrin eliminates phosphate and ameliorates cardiac hypertrophy and valvular calcification in patients with end-stage renal disease and diabetes mellitus undergoing peritoneal dialysis.

Hiramatsu T[1], Hayasaki T[2], Hobo A[2], Furuta S[2], Kabu K[3], Tonozuka Y[3], Iida Y[2].

⊕ Author information

Abstract

Among end-stage renal disease (ESRD) patients, cardiovascular disease is a common comorbidity and one of most important factors affecting clinical prognosis. Calcium deposition has been reported to correlate with plasma phosphate. Icodextrin (Ico)-based peritoneal dialysis (PD) has many advantages over glucose (Glu)-based PD. We aimed to identify factors that suppress arteriosclerosis and valvular disease in patients with ESRD and diabetes mellitus (DM) undergoing Ico-based PD. In this retrospective study, we evaluated the effects of Ico-based PD (n = 20) on phosphate elimination and cardiovascular disease progression in patients with ESRD andDM, and we compared the results with those for Glu-based PD (n = 20). Left ventricular mass index (LVMI) and aortic valve calcification (AVC) score were significantly decreased and daily phosphate elimination was significantly increased in the Ico group compared with the Glu group. Furthermore, mean daily phosphate elimination was significantly and negatively correlated with the amelioration in LVMI and AVC score. Our study suggests that, compared with glucose, icodextrin has the ability to eliminate more phosphate from the body, indicating that phosphate elimination might potentially be a means of controlling cardiovascular disease in PD patients with DM.

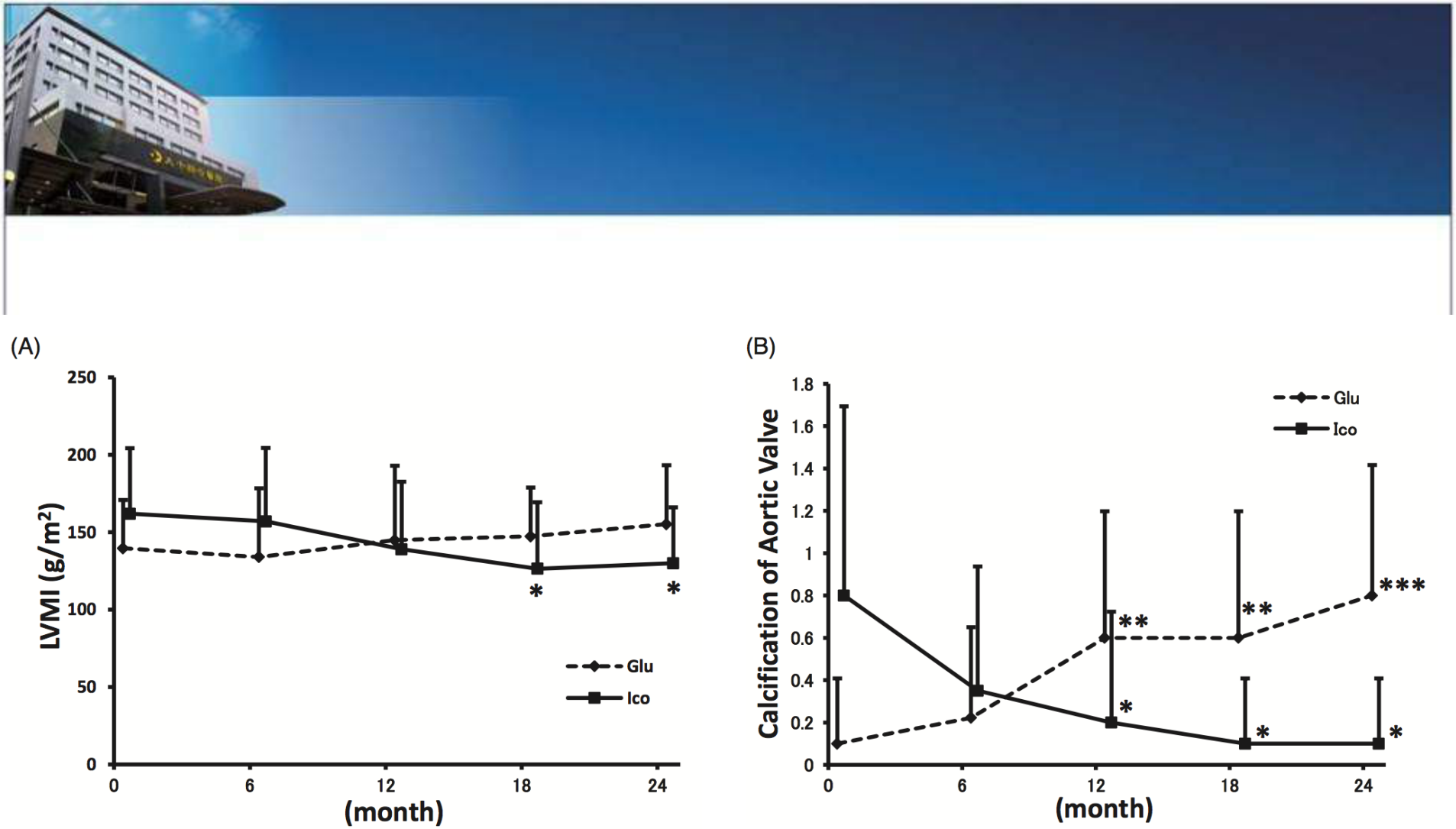


FIGURE 1 Change in (A) left ventricular mass index (LVMI) and (B) aortic valve calcification score every 6 months for 24 months after peritoneal dialysis initiation. * $p < 0.005$ compared with baseline; ** $p < 0.01$ compared with baseline; *** $p < 0.005$ compared with baseline. Glu = glucose; Ico = icodextrin.

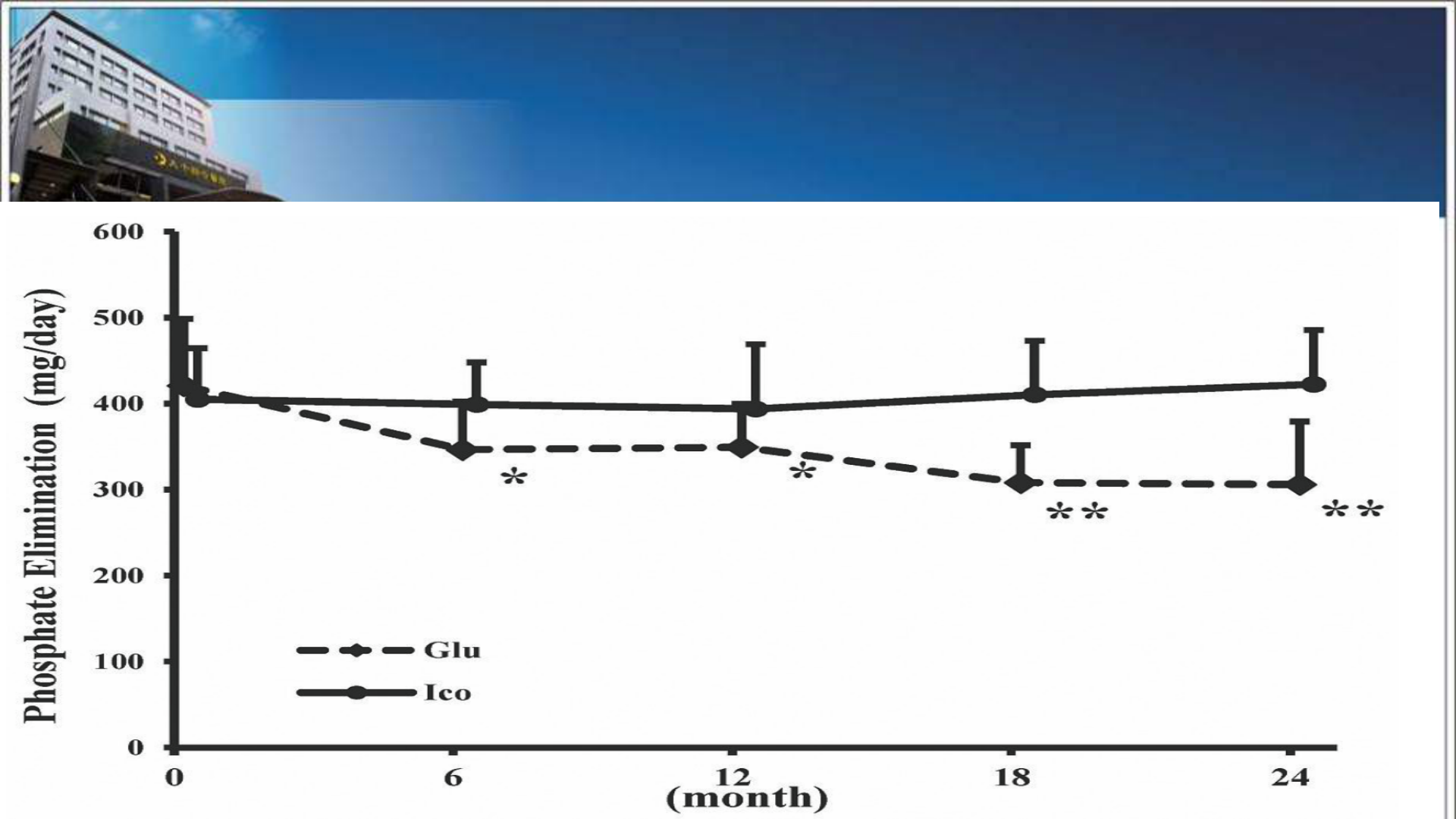
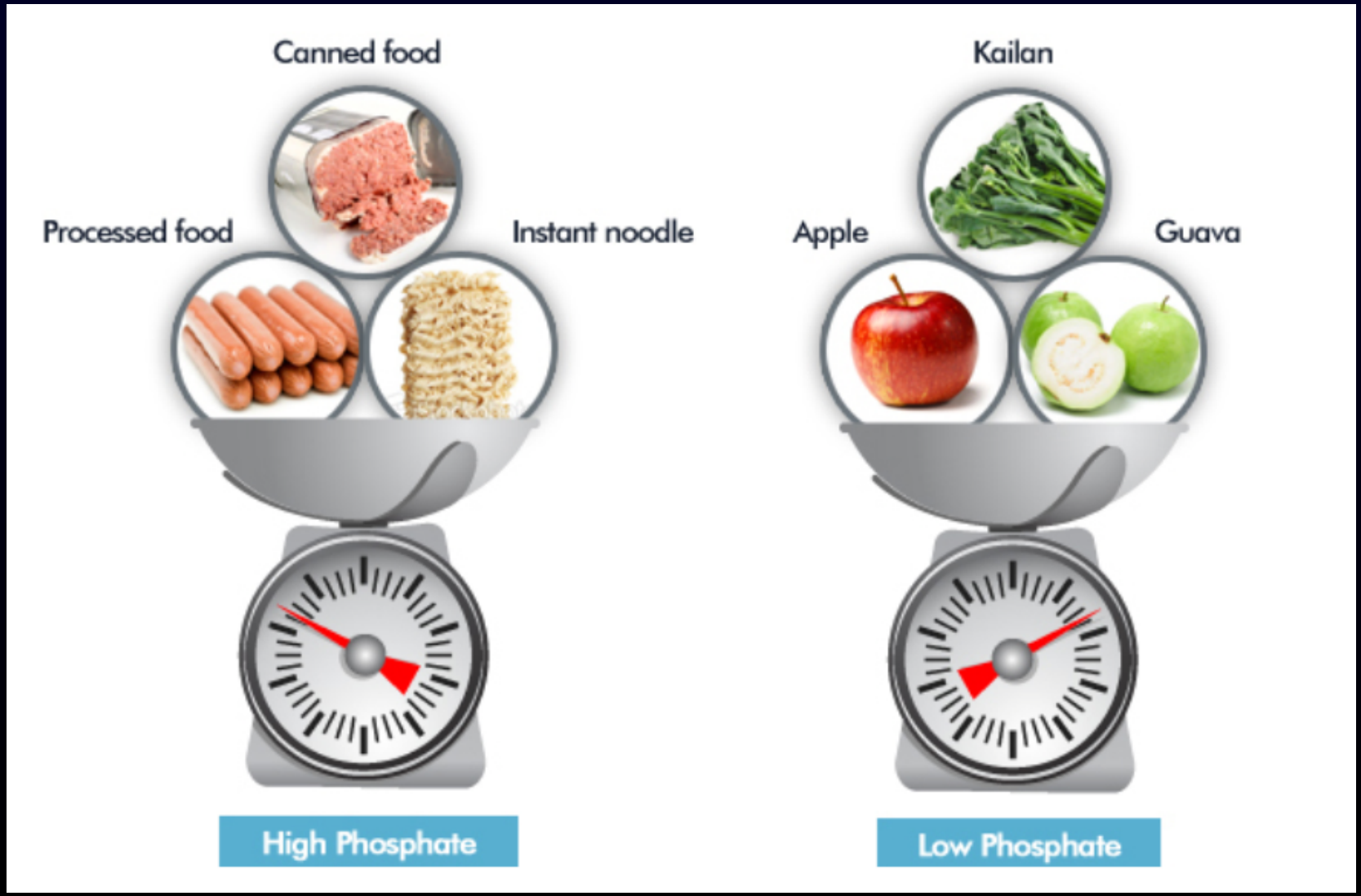


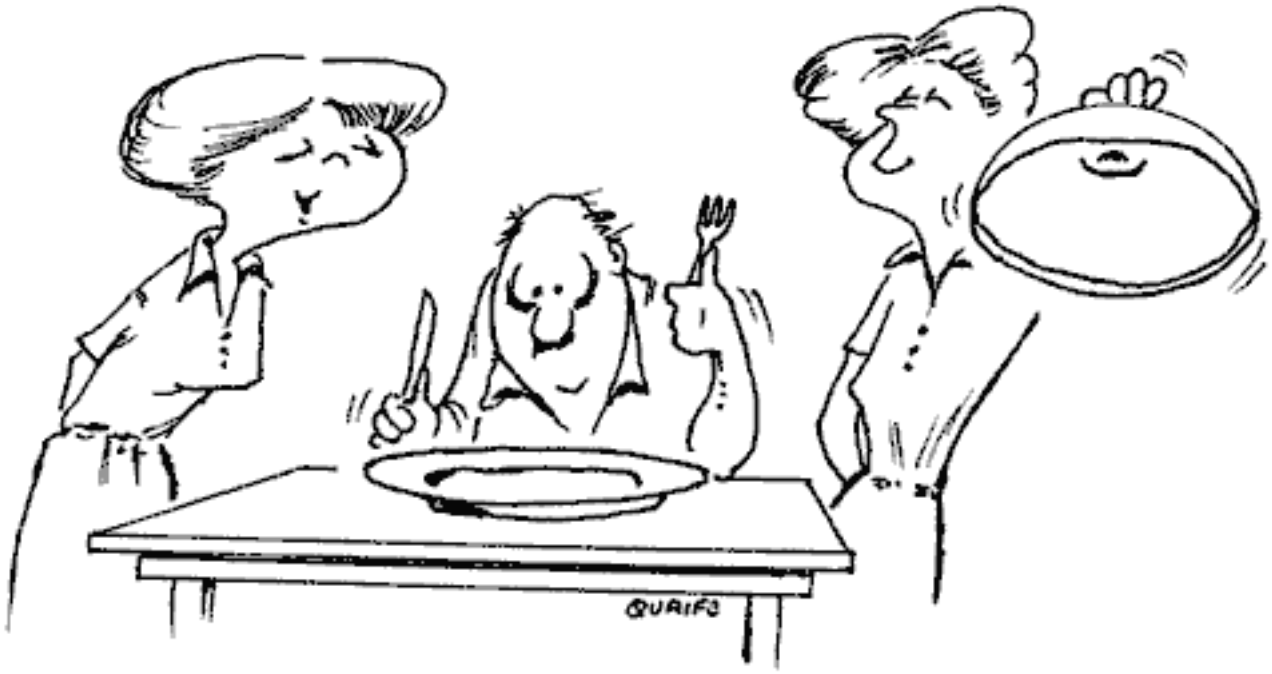
FIGURE 2 Change in daily phosphate elimination into effluent every 6 months for 24 months after peritoneal dialysis initiation. * $p < 0.05$ compared with baseline; ** $p < 0.01$ compared with baseline. Glu = glucose; Ico = icodextrin.


Sun-Moon Lake, Taiwan
透析治療能移除的磷真的很有

「降磷」抗戰 ：認識食物很重要



「降磷」抗戰 ：認識食物很重要



...and this dish is totally potassium-free!

飲食控制

高磷食物排行

高磷食物（每100公克食物含200～500毫克磷）	
五穀根莖類	麥芽飲品、爆米花、薏仁、花生、核桃、開心果、山粉圓、紅豆、綠豆、鷹豆、蓮子、豆皮、豆乾
魚肉蛋奶類	肉乾、臘肉、豬肝、肉鬆、火腿、香魚片、鐵蛋、蛋黃、蝦類、紅蟳
奶類	奶精、乳酪、煉乳、健素糖

非常高磷食物（每100公克食物含500毫克磷）	
五穀根莖類	麥片、養生麥粉、糙米、芝麻、松子、南瓜子、葵瓜子、杏仁
魚肉蛋奶類	小魚干、烏魚子、柴魚片、干貝、魷魚絲、蝦米
奶類	酵母粉、羊乳片

高磷的垃圾食物		
飲料類		
碳酸飲料	啤酒	茶類
珍珠奶茶	紅茶茶包	綠茶茶包
奶茶	咖啡	可可粉
點心類		
包餡湯圓	豆沙包	五穀類
五穀麵包	蛋黃酥	熱狗
泡麵類	巧克力製品	魷魚絲