

**Abstract Type : Poster**

**Abstract Submission No. : PO-1260**

## **Comparison of the Effects of the Type of Hemodiafiltration and Citrate Dialysate on the Nutritional Parameters in Chronic Hemodialysis Patients**

**HYUK HO KWON, EUN MI KIM, SU JIN JI, HYEON SEO HWANG, DEOK HUI JUNG, BOK NAM OH, MI JA LEE, EUN YOUNG KIM**

Department of Internal Medicine-Nephrology, DR. Kwon's Hemodialysis Clinic, LBL Clinical Research Institute, Korea, Republic of

**Objectives:** There are generally two types of dilution methods in online hemodiafiltration (HDF): predilution (PreHDF) and postdilution (PostHDF). PostHDF is performed worldwide because of its higher efficacy, whereas PreHDF is mainly performed in Japan since its reduction of albumin loss, reduced shear stress, and possible nutritional beneficial effects. Citrate dialysate may improve nutritional status and allow attenuate the nutritional disadvantage of PostHDF, because of citrate's anticoagulant, antioxidant and anti-inflammatory properties. Therefore, we aimed to determine the differences of nutritional parameters in 2 types of HDF and to assess whether citrate dialysate can reduce the adverse nutritional effect of PostHDF.

### **Methods:**

This prospective observational study included all 156 hemodialysis patients in our institution for 6 months from August 2018 to January 2019. The groups were divided into Citrate dialysate group (PostHDFG 28, PreHDFG 28, HD 28) and Acetate dialysate group (PostHDFG 24, PreHDFG 24, HD 24). Their nutritional parameters (albumin, prealbumin, total cholesterol (TC), transferrin, CRP, iron, zinc, folate, nPCR) were monitored.

**Results:** The level of albumin was increased in PreHDFG over PostHDFG ( $p < 0.05$ ). In PostHDFG, the level of albumin was higher in acetate dialysate group than citrate dialysate group ( $p < 0.05$ , Table 1). While the level of prealbumin was not associated with the type of HDF, it was decreased significantly in PostHDFG with citrate than PostHDFG with acetate ( $p < 0.05$ ). The level of transferrin was significantly increased regardless of the aspects of HDF and dialysate ( $p < 0.05$ ). The levels of TC, CRP, zinc, iron, folate were changed inversely with the types of HDF. (Fig. 1, Table 2).

### **Conclusions:**

The citrate dialysate did not seem to affect nutritional aspects positively on PostHDF in this study. No strong correlation was found between albumin and other nutritional parameters. Interestingly, the 2 types of HDF had diverging effects on some nutritional markers. A further clinical trial is expected to elucidate the clinical nutritional consequences.

Fig. 1. The change of various nutritional parameters in 2 types of HDF.

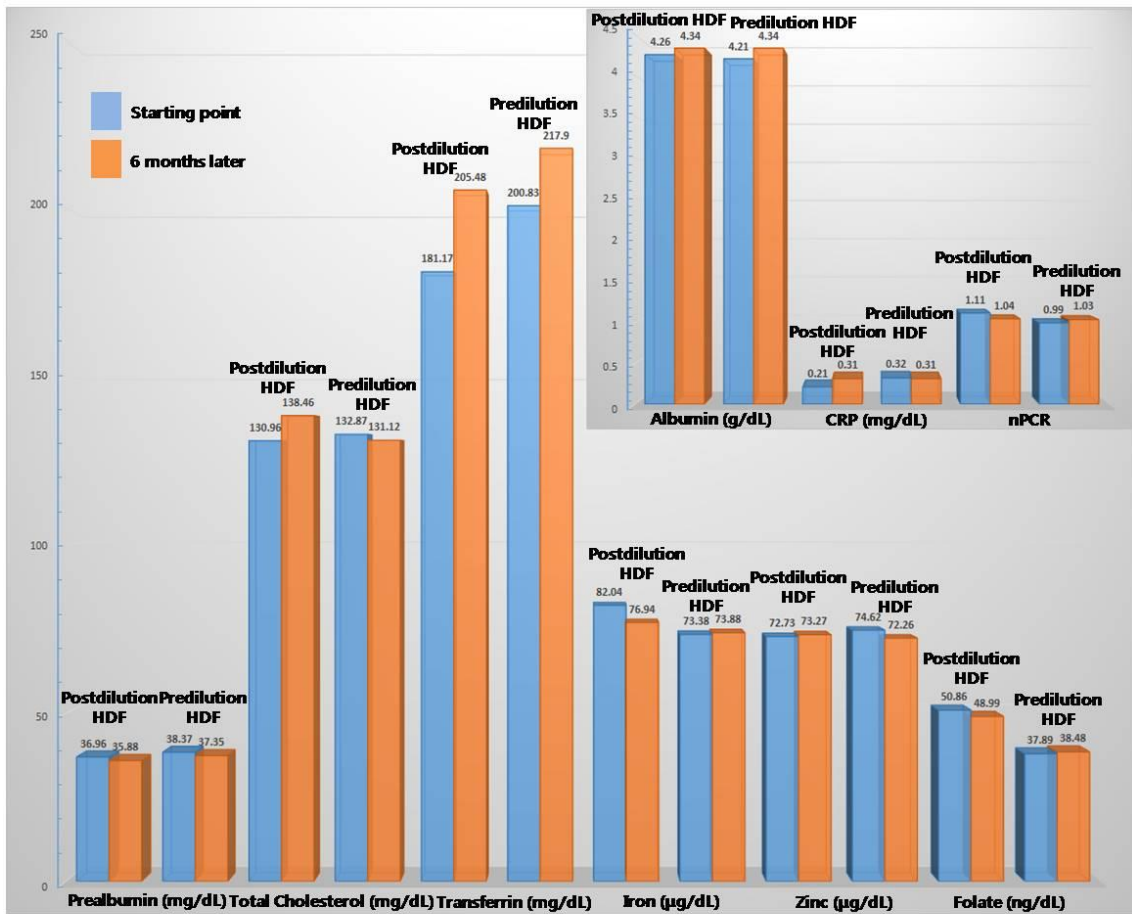


Fig.1 The change of various nutritional parameters in 2 types of HDF

Table 1. The level of Serum Albumin (g/dL)

Group	Subgroup	August (2018)	January (2019)	p-value
Citrate dialysate	Postdilution HDF	4.32±0.37	4.31±0.40	0.880
	Predilution HDF	4.17±0.34	4.25±0.32	0.108
	<b>p-value</b>	0.148	0.577	

Group	Subgroup	August (2018)	January (2019)	p-value
Acetate dialysate	Postdilution HDF	4.19±0.36	4.36±0.34	0.024
	Predilution HDF	4.21±0.53	4.37±0.32	0.214
	<b>p-value</b>	0.874	0.930	

Group	August (2018)	January (2019)	p-value
Postdilution HDF	4.26±0.36	4.34±0.36	0.067
Predilution HDF	4.21±0.44	4.34±0.32	0.046
<b>p-value</b>	0.541	0.977	

Table1. The level of Serem Albumin (g/dL)