

# ASN's 39th Annual Renal Week Meeting

**Filename:** 551940

**Presenting Author:** Robert J Kossmann

**Department/Institution:** Nephrology Practice

**Address:** Sanat Fe Medical Plaza, 1650 Hospital Drive, Suite 200

**City/State/Zip/Country:** Santa Fe, New Mexico, 87505, United States

**Phone:** 505-982-4276

**Fax:** 505-983-7571

**E-mail:** RJKNEPH@aol.com

**Member Number:** 008260

**Abstract Category:** 708.ESRD Treatment Comparison: Clinical Outcomes And Trials

**Entities that provided funding for this abstract:**

Pharmaceutical Company Support

Clinical Revenue Support

**Keywords:**

Dialysis Adequacy; Beta-2 Microglobulin; Dialysate

**Title:** Increased Dialysis Dose and Decreased Concentration of Beta-2 Microglobulin with Citrate Dialysate

Robert J Kossmann, MD<sup>1</sup>, Robin Callan, LLM<sup>2</sup> and Suhail Ahmad, MD<sup>3</sup>.

<sup>1</sup>Nephrology, Nephrophiles, Santa Fe, New Mexico, United States; <sup>2</sup>Renal, Advanced Renal Technologies, Bellevue, Washington, United States and

<sup>3</sup>Nephrology/Medicine, University of Washington, Seattle, WA, United States.

Increase in Kt/V was earlier reported with citrate dialysate in 22 patients using reprocessed dialyzers (Ahmad et al, AJKD, 35:493, 2000). The purpose of the present prospective study was to evaluate the effect of citrate dialysate (CD) on Kt/V in a larger number of patients (n=142), on single use dialyzers (Optiflux 180NR and 160NR) and over a longer period (6 months). The Kt/V was compared on regular

non-citrate (NCD) dialysate for 6 months (Naturalyte and Granuflo ) with

CD (Citrasate ) for following 6 months. During the study the dialyzers and dialysis treatment remained unchanged. Patients, 60 F and 82 M, were 63 +/- 14 years old (mean ± SD) and had been on dialysis for 35 ± 29 months.

As shown in Figure 1 the Kt/V increased significantly during the CD use compared to NCD ( $1.57 \pm .20$  Vs  $1.51 \pm .20$ , Mean ± SD, CD Vs NCD respectively,  $p < 0.0001$ ). Over the 6 months of CD use there was a decline in predialysis beta-2 microglobulin concentration (28.1 to 25.9,  $p=0.0001$ ). Kt/V in 19 patients was one SD below the population average on NCD. The Kt/V in this group was  $1.19 \pm 0.12$  on NCD and on CD it increased to  $1.34 \pm 0.16$  ( $p<0.0001$ ). The remaining 123 patients the Kt/V values were 1.55 and 1.60 on NCD and CD respectively ( $p<0.0001$ ).

The Kt/V remained unchanged during the 6 months on NCD. The switch to CD was associated with increase in Kt/V, apparent in the first 3 month of CD. The increase in the dose was larger in those patients who had lower Kt/V before the switch.

This study suggests that the anticoagulation effect of citrate keeps the dialyzer fibers and pores open and is responsible for the increased removal of urea and beta-2 microglobulin.

**Copyright Transfer: Agree - ASN is accepting this as my electronic signature.**