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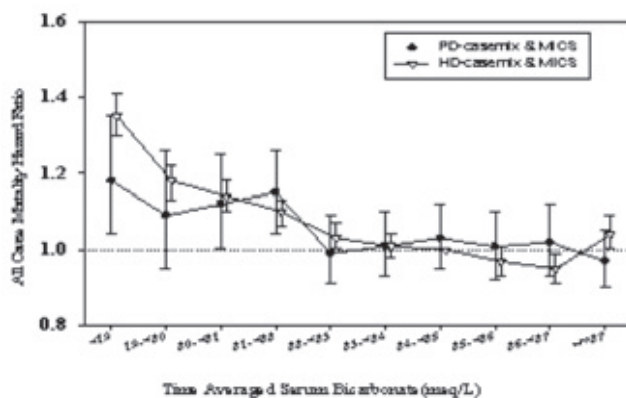
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SERUM BICARBONATE AND SURVIVAL IN PERITONEAL DIALYSIS (PD): COMPARISON WITH HEMODIALYSIS (HD)

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Correction of metabolic acidosis is one of the goals of effective dialysis. The KDOQI guidelines recommend serum bicarbonate > 22 meq/L irrespective of dialysis modality. Since the measured bicarbonate reflects the steady state in PD patients and the lowest interdialytic value in HD patients, we compared the survival predictability of serum bicarbonate 10,400 PD and 110,951 HD patients treated in DaVita facilities from 7/2001-6/2006 with follow-up through 6/2007. PD patients were substantially less likely to have lower serum bicarbonate (adjusted odds, < 20meq/L, 0.40 (0.37-0.43); < 22meq/L, 0.34 (0.33-0.36); < 24meq/L, 0.29 (0.28-0.30)). Unlike a reverse J-shaped relationship in HD, a higher all-cause and cardiovascular mortality was seen only with time-averaged serum bicarbonate < 19meq/L in PD patients. In the entire study population using HD



patients with bicarbonate of 24- < 25 meq/L as reference, a higher risk for all-cause mortality was observed for most patient sub-groups with serum bicarbonate < 22 meq/L irrespective of dialysis modality

(Figure). In conclusion, the measured bicarbonate is significantly higher in patients treated with PD suggesting that the therapy provides a more stable correction of metabolic acidosis than intermittent HD. In both HD and PD-treated patients, serum bicarbonate < 22 meq/L is associated with lower death risk. These data provide support for KDOQI guidelines to achieve serum bicarbonate levels > 22 meq/L for all end-stage renal disease irrespective of dialysis modality.