Acetate Appearance Curve in Normotensive and Hypotension-Prone Hemodialysis Patients

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Sir,

Because acetate has been implicated in the pathogenesis of dialysis-induced hypotension [3], we studied the intra-dialytic acetate appearance curve [2] in two groups of patients defined arbitrarily [1] as normotensive (N) or 10-

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0 30 60 90 120 150 180 210 240

Time, min

Fig. 1. The effects of a single acetate dialysis on mean blood pressure and plasma acetate concentrations in normotensive (•) and dialysis hypotension-prone (o) patients. Each group consists of 6 patients. Means $\pm$ SE are indicated. Asterisks represent significance between groups: * $p < 0.05$; ** $p < 0.02$; *** $p < 0.01$.

dialysis prone (H). As shown in figure 1, the hypotensive patients (who experienced a more marked fall of the mean blood pressure) had much higher plasma acetate concentrations than the N group. Furthermore, the mean blood pressures recorded at any one time were inversely related to the concurrent plasma acetate concentrations in both the H ($n = 9$; $r = 0.86$; $p < 0.01$) and the N groups ($n = 9$; $r = -0.92$; $p < 0.001$). These observations suggest that the hypotensive patients metabolize acetate more slowly than the normotensive patients and establish a clear-cut inverse correlation between plasma acetate levels and blood pressure intradialytic drop. On the other hand, since low blood pressure is said to impair the peripheral acetate metabolism by reducing the blood supply to the acetate catabolizing sites [4], it is possible that the higher than normal acetate intradialytic levels are the consequence rather than the cause of the dialysis-induced hypotension.

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