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Intradialytic metabolic alkalosis is not associated with intradialytic hypotension.

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Objectives: Recent studies have shown that high blood PH or serum bicarbonate (BIC) lead to an increased risk of death in patients undergoing hemodialysis. Serum BIC normally increase rapidly during the first 2 hours after treatment. In this study, we aimed to investigate the association between BIC/PH variability and intradialytic hypotension (IDH) in hemodialysis patients.

Methods: Seventy patients (33 male/37 female, mean age: 58.7 years) with chronic stable hemodialysis, dialyzed for 4hr 2-3 times a week, were prospectively enrolled for a total of 200 dialysis sessions between 2017 and 2018. BICs and whole blood PH were measured at predialysis, 2hr and 4hr after hemodialysis initiation, and systolic and diastolic blood pressure (SBP and DBP) were collected every hour. IDH was defined as a decrease in SBP by ≥ 20 mmHg or a decrease in mean arterial pressure by ≥ 10 mmHg and symptoms/intervention including reduction of blood flow and ultrafiltration or administration of normal saline and midodrine

Results: Mean value of BIC and PH every 0, 2, 4hr after hemodialysis initiation were 24.2 ± 2.8 , 27.7 ± 1.9 , 28.2 ± 2.0 , 7.383 ± 0.326 , 7.433 ± 0.022 , 7.460 ± 0.027 . Among 200 dialysis sessions, 21 IDH and 24 post hemodialysis discomfort occurred. Neither three times BICs nor delta BICs were associated with IDH and post hemodialysis discomfort. Neither three times PH nor delta PH were associated with IDH and post hemodialysis discomfort.

Conclusions: These findings suggest that neither BIC variability nor PH variability were associated with intradialytic hypotension or post hemodialysis discomfort.