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Comparative study of changes in the vital signs during surgery under general anesthesia in hemodialysis patients

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Objectives : Preoperative management for surgery under general anesthesia in hemodialysis patients includes body fluid volume control. There is still controversy regarding the target weight setting during hemodialysis (HD) on the day before the surgery in these patients. In the present study, we compared the changes in the vital signs from the beginning to the end of surgery under general anesthesia in patients on maintenance hemodialysis.

Methods : Fifty-one patients admitted to our hospital for surgery between January 2022 and October 2023 were included in this study. The patients were divided into two groups: the DW group, in which water up to the DW was removed during HD on the day before the surgery, and the DW+ group, in which water was removed up to DW plus 1% of the body weight. We measured the vital signs, and total dose of sedative analgesics and vasopressors administered in these patients.

Results : There were no significant differences in the patient background characteristics (age, sex, height, DW, surgery type, surgery time) between the two groups. There were also no significant differences in the mean blood pressure at the time of admission to the operating room, during induction of anesthesia, during maintenance of anesthesia, or at the end of surgery, in the degree of reduction of the blood pressure (%) from the time of admission to the operating room, or in the total doses of sedative analgesics and vasopressors administered between the two groups.

Conclusions : Comparison between HD patients in whom water was removed up to the DW and those in whom water was removed up to the DW plus 1% of the body weight during HD on the day before the surgery revealed no significant differences in the intraoperative vital signs between the two groups.