THE KOREAN SOCIETY OF NEPHROLOGY
APCN & KSN 2024
June 13(Thu) - 16(Sun), 2024 Coex, Seoul, Korea
Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

Abstract Submission No.: A-0569

Comparison of the Safety of Normal Saline and Balanced crystalloid in hydration after kidney biopsy

Yu Tanaka, Tomoko Horinouchi, Yuta Inoki, Yuta ichikawa, chika ueda, Hideaki kitakado, Atsushi kondo, nana sakakibara, China Nagano, kandai Nozu
Department of Pediatrics, kobe university, japan, Japan

Objectives : In situations where the risk of hyponatremia increases due to non-osmotic ADH secretion stimulation in hospitalized patients, the isotonic fluid infusion has become a common choice. However, there is still no consensus on the clinical impact of the type of isotonic fluid.
Methods : The study included 61 pediatric cases that underwent renal biopsy at our hospital from April 2021 to March 2023. Patients were assigned to the normal saline (NS) group from April 2021 to March 2022 and to the balanced crystalloid (CS) group from April 2022 to March 2023. Infusion rates were set at 10 mL/kg/h (Max 200 mL/h) for the first 2 hours post-puncture, followed by a reduction to 5 mL/kg/h (Max 100 mL/h) for the next 3 hours and subsequently further decreased to 3 mL/kg/h (Max 50 mL/h). Plasma ADH, serum creatinine, electrolytes, blood gas analysis, urinary sodium, urinary creatinine, urinary osmolality, and tonicity were evaluated just before biopsy (T0) and 5 hours post-biopsy (T5) were measured. （UMIN Clinical Trial Registry: UMIN 000044330）
Results : Two cases with insufficient data were excluded from the analysis. Elevated plasma ADH (T5) was observed in 22% of all cases (13/59). No cases of hyponatremia were observed post-biopsy. In the NS group, serum chloride was significantly higher (107.9±2.4 vs 106.2±2.0 mEq/L, $P<0.01$), and bicarbonate was significantly lower (22.9±2.5 vs 24.5±2.2 mmol/L, $P=0.02$) at 5 hours post-biopsy compared to the CS group.
Conclusions : In the NS group, an increase in serum chloride and a corresponding decrease in bicarbonate were observed. Fluid loading with NS demonstrated the potential to exacerbate acidosis.