

6th World Nursing and Healthcare Conference

August 15-17, 2016 London, UK

The effects of fluid on the acid-base and electrolytes status and renal function after kidney transplantation

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Purpose: The purpose was to elucidate the effects of Normal saline solution (NS) versus Hartmann's solution (HS) on the acid-base and electrolytes status and renal function after kidney transplantation.

Methods: We retrospectively analyzed 103 patients who underwent kidney transplantation (KT). Analyses were performed separately according to the donor type (living=52, deceased=51). In the living donor KT group, 28 patients received NS and 24 received HS. In the deceased donor KT group, 27 patients received NS and 24 received HS. In each group, we compared the acid-base and electrolyte status, urine volume, and renal function between patients receiving NS and patients receiving HS.

Results: Regardless of donor type, there were no difference in potassium, pH, base excess, PCO₂ and HCO₃ between HS and NS on immediate postoperative and postoperative day 1. However, changes to neutral acid-base balance in terms of pH, HCO₃, and base excess were significantly higher in HS than in NS. In living donor KT, NS increased serum potassium and chloride significantly during fluid therapy. On postoperative day 7, renal function showed no difference between two groups but urine volume was significantly larger in NS than in HS.

Conclusion: HS does not increase the incidence of hyperkalemia after KT. The use of HS resulted in less metabolic acidosis than the use of NS. Renal function was similar but polyuria was more severe in patients who received NS than in those who received HS.

Biography

Minyoung Kim has completed her Ph.D. at the age of 33 years and Assistant Professor from Ulsan University School of Nursing. She is the Adult Health advanced practice nurse for 10years. And she has published 9 papers in reputed journals.

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