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출혈성 경향이 있는 소아 CRRT 환아에서 nafamostat mesilate 효과

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The use of Nafamostat Mesilate as an Anticoagulant in Pediatric Continuous Renal Replacement Therapy

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Continuous renal replacement therapy (CRRT) is the treatment of choice for supporting pediatric AKI patients. Although heparins have been the most commonly used as an anticoagulant for CRRT, alternative methods of anticoagulation including nafamostat mesilate, a synthetic protease inhibitor, have been investigated for the patients with high risk of bleeding. However, little is known about the clinical utility of nafamostat mesilate in pediatric patients with CRRT. The aim of this study was to evaluate the ideal dosage, efficacy and safety of nafamostat mesilate in CRRT among critically ill pediatric patients.

We undertook as retrospective study in pediatric patients with high risk of bleeding who underwent at least 24 hours of venovenous CRRT at Samsung Medical Center from January 2012 to January 2013. Demographic, clinical and laboratory data were extracted from medical records.

Thirty patients were enrolled in this study (18 males with the median age at the initiation of CRRT of 8 years). The median time for CRRT in each patient was 5 days (range, 2 to 112 days). We divided the patietns with high risk of bleeding into 2 groups accroing to the use of nafamostat medilate. For the patients who had the basal activated clotting time (ACT) more than 200 or the filter survival time more than 12 hours, we did not use anticoagulation. Nafamostat mesilate was used with the starting dosage of 0.25 mg/kg/hour. The dosage was titrated according to the following ACT and filter survival time. If the filter survival time was less than 12 hours during the use of nafamostat mesilate, the dosage was elevated with 0.5 mg/kg/hour. Fourteen (46.7 %) patients received nafamostat and the median filter survival was improved from 9.5 hours (range, 2 to 17 hours) to 23.5 hours (range, 11 to 71 hours) after the use of nafamostat mesilate ($p<0.001$). The median filter survival was 41 hours (range, 12 to 72 hours) in patients without anticoagulation. No patients experienced major bleeding while treated with nafamostat medilate.

These data suggest that nafamostat mesilate is a good alternative as an anticoagulant in critically ill pediatric patients with high risk of bleeding who require CRRT. Further studies to evaluate the ideal dosage and safety of nafamostat mesilate for neonates are needed.

Key Words: 지속적 신대체요법, 소아, 후탄
CRRT, Nafamostat mesilate, Pediatric patients