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-0103

The Effect of Nafamostat Mesilate on Regulatory T cell population in Patients with Acute Kidney Injury receiving continuous renal replacement therapy

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Objectives : We aimed to confirm the protective effect of nafamostat mesilate on regulatory T cells and the possibility of restoring renal function in AKI patients receiving continuous renal replacement therapy (CRRT) using nafamostat mesilate as an anticoagulant due to an increased bleeding tendency.
Methods : This study was a prospective observational study of AKI patients who were admitted to the Intensive Care Unit of Kosin University Gospel Hospital between January 2021 and October 2021 and who required CRRT. Blood was drawn within one day of the first administration of nafamostat mesilate as an anticoagulant and then again two to three days after, and changes in the regulatory T cell population in these patients were examined.
Results : . When examining changes in test results before and after the administration of nafamostat mesilate in patients with AKI who were undergoing CRRT and receiving nafamostat mesilate as an anticoagulant, an increase in lymphocytes and a decrease in inflammatory cytokines were found. A decrease in Pro-BNP, a heart failure marker that is believed to indicate improvement in heart failure, was also observed. In a patient with AKI receiving CRRT who was taking nafamostat mesilate as an anticoagulant, the change in regulatory T cells before and after nafamostat mesilate administration showed improvement in kidney function and an increase in regulatory T cells after futhan administration.
Conclusions : In this study, it was estimated that nafamostat mesilate had a positive effect on increasing regulatory T cells and partially contributed to the recovery of kidney function. In the future, it will be necessary to confirm the recovery of kidney function through an increase in regulatory T cells when using nafamostat mesilate in CRRT patients through a prospective controlled study.