

**Abstract Submission No.: A-0501**

**Removal efficiency and safety of high-dose post-dilution hemodiafiltration  
using Clearum HSF**

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**Objectives :** Several RCTs have reported a better life expectancy of patients undergoing post-dilution HDF when the convection volume (CV) is set at a higher level. However, an increased CV can lead to excessive albumin leakage. The aim of the present study was to clarify the efficiency of removal of large-middle molecules by post-dilution HDF at a high CV using Clearum HSF which have recently been launched in the market in Japan.

**Methods :** Post-dilution HDF was performed in 8 patients on maintenance hemodialysis, with QB = 300 mL/min and QD = 600 mL/min. The replacement fluid volume was adjusted to achieve a plasma filtration fraction (FF) (ratio of the total filtration rate to the plasma flow rate) of 40%, 50%, or 55%. The parameters evaluated were the removal rates of Ure, Cr, iP,  $\beta$ 2-MG, and  $\alpha$ 1-MG, and the albumin leakage at FF values of 40%, 50%, and 55%.

**Results :** The removal rates of Ure, Cr, iP and  $\beta$ 2-MG did not change, but a significant increase in the removal rate  $\alpha$ 1-MG was observed with increasing values of the FF (17.9% at 40% FF, 23.8% at 50% FF, and 30.8% at 55% FF,  $P < 0.05$ ). A trend towards increasing albumin leakage with increasing FF was observed (0.7 g at 40% FF, 1.3 g at 50% FF, and 2.3 g at 55% FF). These results indicated that the Clearum HSF hemodiafilter suppresses albumin leakage while maintaining a high water and solute permeability even under high concentration polarization.

**Conclusions :** Use of Clearum HSF for high-dose hemodiafiltration with a FF of 55% (CV 31.5 L) allowed a greater than 30% removal rate of  $\alpha$ 1-MG and approximately 2.0 g Alb leakage, suggesting that use of Clearum HSF for HDF is a very valid option for HD patients.