

Which is the best? : pre-dilution vs. post-dilution

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With on-line formation of the substitution fluid, high substitution rates in predilution and postdilution can be obtained. The substitution fluid is branched off from the dialysate produced by the dialysate delivery system of the HDF machine. During postdilution HDF and additional convective removal is possible, but in vivo Q_s is limited to approximately $1/3Q_b$ (bloodflow). With predilution HDF higher Q_s and therefore high convective transport rates by ultrafiltration can be reached. On the other hand the blood concentration is diminished by predilution. Generally, the advantage of postdilution HDF over predilution HDF resides in the fact that it removes low-weight molecular proteins (LWMPs) and protein-binding uremic toxin. Predilution on-line HDF is associated with reduced shear stress, and the synthesis of cytokine and more dilaysate. Thus, postdilution on-line HDF has been widely used in the world, but in Japan predilution on line-HDF has been the preferred treatment. Numerous studies have been carried out to investigate the solute removal efficiency of hemodiafiltration (HDF). However, the effect of the dilution mode on blood cell damage during HDF has not yet been examined in detail.