Effect of Varied Temperature Dialysate on Small Sized Toxins Removal in Haemodialysis Patients

Thesis

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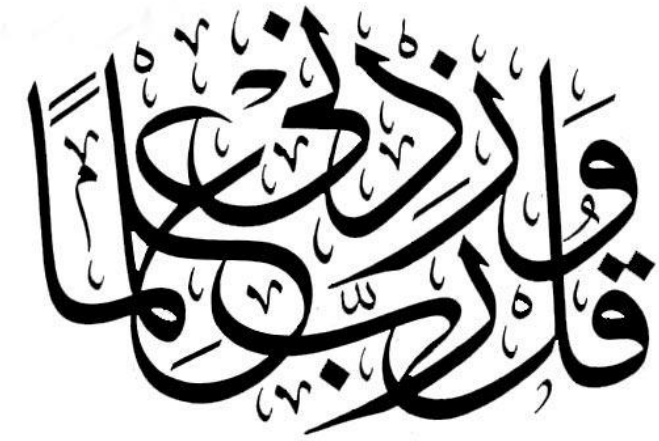
بسم الله الرحمن الرحيم


وقل رب زدني علما

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Enas Tolba Tolba Mohammed

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LIST OF ABBREVIATIONS

Abbr.	*Full Term*
AV	Arterio-Venous
BRs	Baroreflex sensitivity
Creat	Creatinine
Deg	Degree
HD	Haemodialysis
HDF	Haemodiafiltration
IDH	Intradialytic hypotension
Kt/V	Dialyzer Clearance X Time of Dialysis / Volume of Body Fluid
LV	Left Ventricle
MRI	Magnetic Resonance Imaging
Pt	Patient

Abbr.	*Full Term*
SD	Standard Deviation
Temp	Temperature
U	Urea
UF	Ultra-filtration
$\mathbf{U_{post}}$	Postdialysis Urea
$\mathbf{U_{pre}}$	Predialysis Urea
URR	Urea Reduction Ratio
PASW	Predictive Analytics SoftWare

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Improving toxin removal can potentially improve the hemodialysis (HD) patient outcome. HD procedure progressed from low efficiency low-flux dialysis to high efficiency high-flux dialysis and currently towards increased acceptance for convection based hemodiafiltration (HDF). However, in all these extracorporeal renal replacement therapies, toxin removal is primarily impaired by inter-compartmental resistance **(Ward, *et al*., 2006).**

Dialysate temperature is an easy maneuver which can change the blood temperature, a surrogate of body core temperature. Warm dialysate can increase the body core temperature, resulting in vasodilation and increased mobilization of sequestered toxins to intravascular compartment **(Selby and McIntyre, 2006)**.

Cool dialysate induced vasoconstriction may reduce the toxin mobilization from remote inaccessible body compartments to intravascular compartment, thus hindering the toxin removal, which is contrary to the fundamental objective of HD. Hence, although cool dialysate helps in prevention of intra-dialytic episodes in short-term, prolonged usage may lead to poor patient outcome by impaired toxin removal **(Duranton, *et al*., 2014).**

AIM OF THE WORK