

Dialysis induced cardiac injury: common, deadly and avoidable

Haemodialysis patients are subject to an enormous excess of cardiovascular morbidity and mortality. This appears to be largely driven by factors that are different from those at play in the general population. Chronic HD patients are already primed by a large number of structural and functional peripheral vascular and cardiac abnormalities to experience demand myocardial ischaemia.

Conventional Haemodialysis is capable of inducing myocardial ischaemia. Recurrent ischaemic insults lead to myocardial functional and structural changes, eventually resulting in fixed systolic dysfunction and heart failure (conferring a dismal prognosis for patients undergoing dialysis).

Modifications of the haemodialysis process, to improve the haemodynamic tolerability of the treatment, have been shown to reduce the perturbation of myocardial blood flow and functional evidence of dialysis induced ischaemia.

Although it is uncomfortable to consider that much of the observed disease burden in haemodialysis patients may be an artefact of current dialysis treatment regimes, understanding the role that conventional dialysis plays in the pathophysiology of cardiac injury in haemodialysis patients has the potential to provide us with additional dialysis, and non-dialysis, based novel therapeutic targets to reduce currently excessive rates of cardiovascular morbidity and mortality.