

Are elevated inflammatory state a cause for, or consequence of, the loss of residual kidney function in dialysis?

Patients undergoing haemodialysis have better long-term prospects if their kidneys continue to function to some degree and produce urine. Unfortunately, most patients' kidneys will stop working altogether shortly after starting haemodialysis. The reason for this is not completely understood and it is likely due to a combination of factors. We suspect that inflammation caused by the dialysis itself may be contributing.

Patients with kidney disease have been shown to have a low level of inflammation happening throughout the body at all time. Higher levels of this inflammation is linked to progression of kidney disease and worse long term outcomes. Higher levels of inflammation are seen in patients on dialysis when compared to those with low kidney function, but not yet started dialysis. Patients on dialysis who have lost their kidney function completely have higher levels still.

We aim to follow individual patient's journeys as they start dialysis to establish if this progressive rise in inflammation is related to the loss of their kidney function, or if inflammation caused by the dialysis itself is a reason for their kidney function worsening. By answering this question, we hope to show that further research into reducing inflammation caused by dialysis could result in patients keeping some degree of kidney function for longer after starting dialysis, thereby improving clinical outcomes and QoL. Preserving urine output in patients on dialysis allows more freedom from the need for intensive dialysis schedules.