

Manchester Vascular Access Study (MANVAS) - A study of Clinical, Imaging and Biomarker Predictors for successful Arteriovenous Fistula Maturation in ESKD patients

Haemodialysis is the dominant dialysis modality across UK and worldwide offered in 80-90% dialysis patients across UK.

This treatment, however, is crucially dependent on a mature and functioning arteriovenous fistula (AVF), which is the gold standard to deliver good outcomes, reduce infection rates and for patients to live well for longer.

AVF rates in dialysis patients are significantly lower than national targets in Manchester and UK, which remains an unmet need.

A key problem is that at least a third of AVF when created surgically fail to mature, hence patients remain dependent on dialysis with a catheter. The mechanism of why AVF fail to mature and how to predict success pre-emptively, is not known.

We have studied from 190 patients from renal 4 centres from the date of surgical creation of AVF and collected clinical data, serial Ultrasound scan images and blood samples sequentially at timed intervals.

The project has been approved by ethics committee, NIHR Research Network and UK Clinical study Group and provides a precious repository of clinical information to study AVF maturation.

The aim is to study the natural history of AVF maturation by analysing the clinical database, ultrasound images and blood sample analysis for novel proteins, and metabolic biomarkers to identify predictors and early diagnostic markers of successful maturation of blood vessels during AVF maturation.

Derived information can potentially be used to inform clinicians and surgeons in assessing patients for AVF, inform patients better on chances of successful surgical outcomes and study any novel biomarkers that can be potentially modified to aid maturation.

Improvement in maturation rates will help more patients to dialyse with a mature AVF and better outcomes.

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