

CAF/18/02 – The Interrogation of the Cardiomyopathy of chronic Kidney disease with advancEd caRdiac imaging (the ticker study)

Patients with kidney failure have a much higher risk of heart disease compared to people without kidney failure. Cardiac MRI (CMR) is a very detailed scan of the heart and blood vessels. In this project we will use CMR to test a specialized measure of heart function, called *strain*, to find which patients with kidney failure are at high risk of heart disease. We will also perform CMR scans in patients before and after dialysis (a treatment for patients with kidney failure) to see whether dialysis changes the heart muscle. We will compare the pictures on CMR with another type of heart scan, called a CT scan, to see just how much damage to the heart muscle patients with kidney failure have. Finally, we will test a new way to measure hardening of blood vessels on CMR. These four studies will help us to better understand the heart and blood vessel changes that happen in kidney failure. This research will also be useful for patients without kidney failure. We hope to be able to use it in the future to see which new treatments might be able to reduce the risk of heart disease in patients with kidney failure.