2016 ADS Skip Martin Early Career Fellowship

'Validating novel molecular biomarkers of vascular health in type 2 diabetes'

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The prevalence of Type 2 diabetes (T2D) and related blood vessel complications is rising in spite of modern treatments to control glucose, blood fats and blood pressure. Hence, an improved understanding of drivers of diabetes-related damage is required; along with more accurate means to better target and monitor treatments. The FIELD (Fenofibrate Intervention and Event Lowering in Diabetes) study of 9,795 T2D patients demonstrated that 5-years of a once-daily tablet of the blood fat lowering drug fenofibrate protected against many diabetes-related complications. There are up to 12-years follow-up data and repeated blood samples in ≈1750 participants. MicroRNAs are small RNA molecules that do not code for a protein and are increasingly used in diagnosis and monitoring of human disease. This prestigious Skip Martin fellowship from the Australian Diabetes Society will enable me to assess microRNAs in blood of ≈1750 FIELD study individuals without or with vascular disease. I hope to identify whether circulating microRNA profiles can predict future T2D complications (in FIELD), treatment efficacy and evaluate the effects of fenofibrate in these individuals at 7-years after the study close-out.