



Government of Western Australia
East Metropolitan Health Service



THE UNIVERSITY OF
WESTERN AUSTRALIA



The ViKCoVac trial

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GP education event

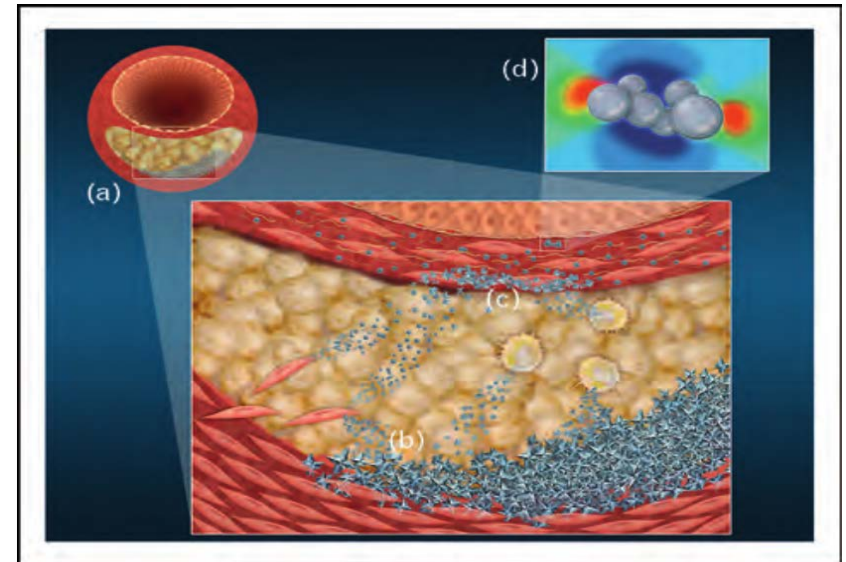
2 September 2017



Vascular calcification

An active disease process

- › Evolving from microcalcifications in early plaque development into established macrocalcified deposits in the vascular intima
- › A systemic disease process highly predictive of mortality



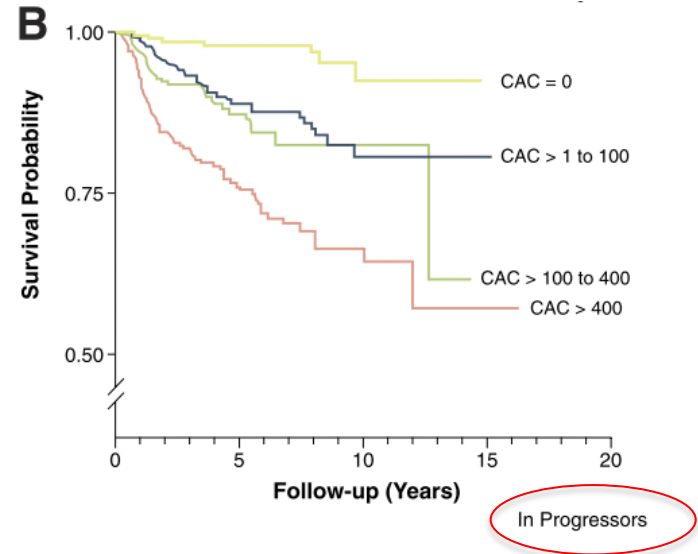
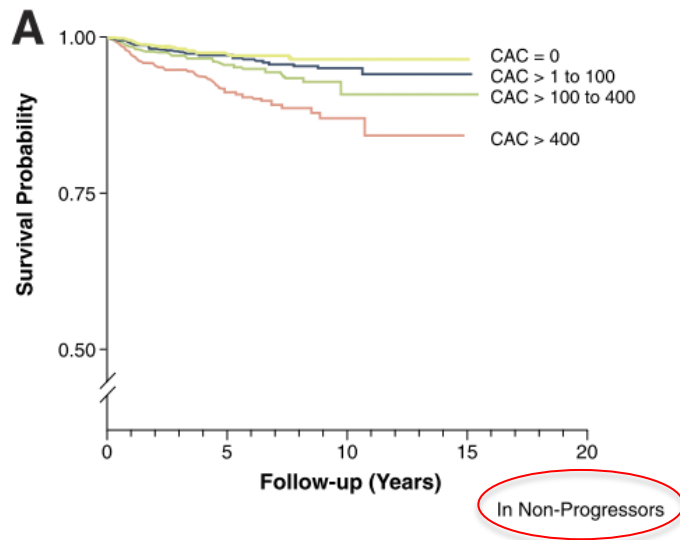
Hutcheson et al. Small entities with large impact. Current opinion in lipidology. 2014;25(5):327-332



The CT coronary calcium score

An effective method of risk stratification

- › Useful for patients who are at “intermediate risk”
- › “Personalise” risk stratification
- › Progression of coronary artery calcification on CT is a better predictor of mortality



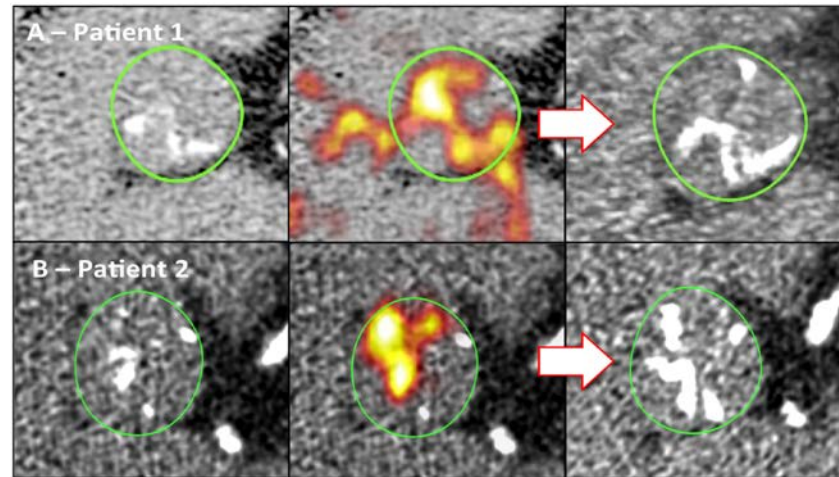
Budoff et al. Progression of coronary artery calcium predicts all-cause mortality. JACC Cardiovasc Imaging 2010;3(12):1229-36



Vascular calcification activity

18F- Sodium Fluoride Positron Emission Tomography (PET)

- › A novel radiotracer developed for the identification of skeletal metastases
- › Binds to hydroxyapatite – present in bone and calcified plaque
- › A sensitive and specific marker of microcalcification activity in-vivo
- › Can detect progression of CAC from baseline



Dweck et al. 18F-Sodium Fluoride is a marker of active calcification and disease progression in patients with aortic stenosis. *Circ Cardiovasc Imaging* 2014;7(2):371-378.



The ViKCoVac trial

A double blinded randomised placebo controlled 2x2 factorial trial of Vitamin K and Colchicine for Vascular Calcification Activity as measured by 18F-Sodium Fluoride PET in patients with Diabetes Mellitus.

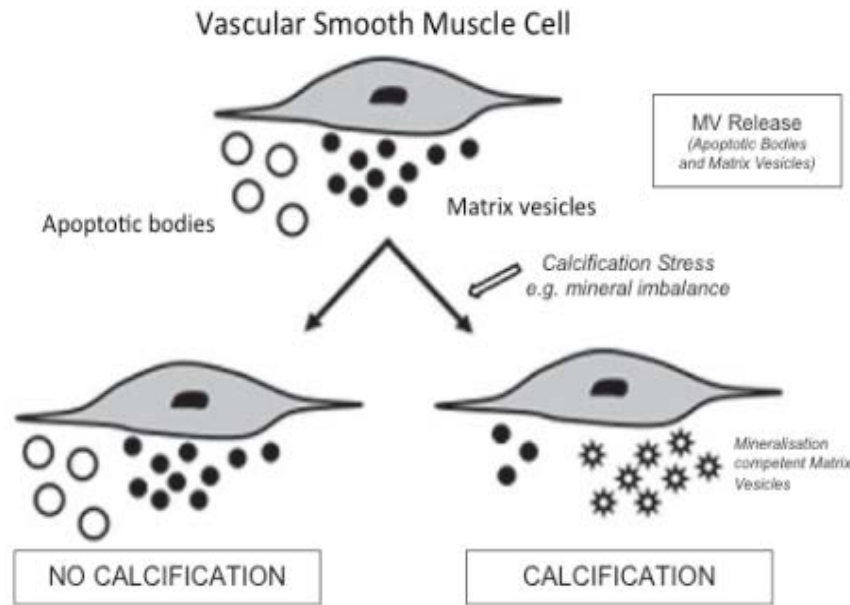
Hypothesis;

- › 10mg of Vitamin K / day will reduce vascular calcification activity at three months, compared to placebo
- › 0.5mg of colchicine / day will reduce vascular calcification activity at three months compared to placebo





Vitamin K and Colchicine



Vitamin K



Inhibitors upregulated
Matrix-GLA protein
(Activation by Vitamin-K)

Colchicine



Loss of inhibitors
Accelerated by Inflammation



Who do we need?

Patients between 50-80 years old with Type 1 or Type 2 diabetes mellitus

Main exclusion;

- › Warfarin use
- › Prior or planned PCI or CABG



What is the process for participants?

Participants receive;

- › Screening for coronary artery calcium with a cost-free CT coronary calcium score
- › Routine bloods and evaluation at Royal Perth Hospital Cardiology Department
- › 18F-Sodium Fluoride PET scan at beginning and end of trial
- › 3 months of Colchicine / Vitamin K / Placebo therapy
- › 2 year follow-up CT coronary angiogram
- › You will receive results of relevant investigation



Key points

- › This is a promising opportunity to be involved in some of the research undertaken at Royal Perth Hospital
- › We would like to further develop research related relationships with General Practitioners in Perth
- › If you have patients who may suit this trial, feel free to contact me
- › More trial information is in your information pack, along with a flyer for patients and my contact information

Thank you

