

Research project student Pathology UMCG

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| Titel | Accelerated vascular ageing in Chronic Kidney Disease (CKD) |
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| Abstract (vraagstelling en achtergrond) | <p>Cardiovascular mortality is a major complication in patients suffering from Chronic Kidney Disease (CKD). As a consequence of impaired renal function, CKD patients have multiple cardiovascular risk factors like hypertension, proteinuria and altered electrolyte balances (e.g. hyperphosphatemia and hypercalcemia). An important hallmark of cardiovascular disease in CKD is <u>vascular calcification, in which smooth muscle cells change their phenotype and start to calcify</u>. Recently, circulating nano-aggregates consisting of calcium, phosphate and certain proteins were proposed to play a role in the vascular calcification process in CKD. The mechanism by which they may enhance vascular calcification is still largely elusive and topic of current project.</p> <p>At the Dept. Pathology & Medical Biology we are investigating the potential mechanism(s) of vascular calcification with specific focus on accelerated vascular ageing (senescence) and crosstalk between the endothelium and smooth muscle cells. Under the supervision of a PhD-student the student will perform basic translational research in which various techniques will be used, including cell (co-) culture, (immuno)histochemical staining on cells and (human) vascular tissue, gene expression analysis (PCR), western blotting. The exact research question and experimental setup will be determined during the project with input from the student.</p> |
| Study objective(s) | Characterize the causal role of endothelium in the development of vascular calcification in Chronic Kidney Disease (CKD) |
| Periode | 2020 and further |