

## Cardiac mechanics in chronic kidney disease

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# Stellingen behorend bij het proefschrift CARDIAC MECHANICS IN CHRONIC KIDNEY DISEASE

#### Liselotte C.R. Hensen

- 1. Left ventricular mechanical dispersion along with left ventricular global longitudinal strain may provide additional valuable risk markers of ventricular arrhythmias and sudden cardiac death in pre-dialysis and dialysis patients. (*This thesis*)
- 2. In pre-dialysis and dialysis patients, severely impaired left ventricular global longitudinal strain is independently associated with an increased risk of mortality. (*This thesis*)
- 3. The prevalence of impaired left ventricular global longitudinal strain despite preserved left ventricular ejection fraction in pre-dialysis and dialysis patients is relatively high. (*This thesis*)
- 4. The prevalence of left-sided valve calcium in patients with stage 2 and 3 chronic kidney disease is high and is associated with poor survival. (*This thesis*)
- 5. Global longitudinal strain has an independent prognostic significance in patients with (on average) mild left ventricular global impairment. While image quality and load dependence remain potential limitations, these findings add to other reasons to support the wider use of global longitudinal strain, including avoidance of geometric assumptions, less variability, and sensitivity to subclinical change. (Kalam K et al. Heart 2014;100:1673-1680)
- Reduced deformation despite preserved ejection fraction can be explained through geometric factors. Due to geometric confounders, strain better reflects systolic function in patients with preserved ejection fraction. (Stokke TM et al. J Am Coll Cardiol 2017;70:942-954)
- 7. Speckle tracking echocardiography detects early interstitial fibrosis and changes in left ventricular contractility in rat models of uremic cardiomyopathy and predicts cardiovascular and all-cause mortality in patients with end-stage renal disease. (Kramann R et al. J Am Soc Nephrol 2014;25:2351-2365)
- 8. Prevalence of at least mild aortic stenosis and mitral regurgitation is substantially higher and is associated with significantly lower survival among patients with versus without chronic kidney disease. (Samad Z et al. J Am Heart Assoc 2017;6:e006044)
- 9. Je ontdekt geen nieuwe landen zonder ermee in te stemmen dat je de kust heel lang uit het oog verliest. (naar Andre Gide, 1869-1951)
- 10. Geduld is het vertrouwen hebben dat alles komt als de tijd rijp is. (naar Andreas Tenzer, 1954-)
- 11. Denk niet wit of zwart, maar in de kleur van je hart. (naar Frank Boeijen, 1957-)
- 12. Follow your own way and you will be given wings to fly.