MEDVIZ FROM VISION TO DECISION

Seminar Friday 27.01 at 12:00-13.00

Meeting room 2401, 1st floor, L-corridor, Heart Med. Dept. HUH, Central bld.

Consultant Stig Urheim: The relation of different geometries of left ventricular outflow tract and mitral valve flow dynamics

In the present study, we investigate how changes in the curvature (billowing) of the anterior mitral leaflet (AML) affects flow dynamics in close relation to the leaflet and the outflow tract. A better fundamental understanding of how AML curvature affects flow dynamics could become clinically useful and facilitate diagnosis and surgical treatment of mitral valve pathology. To quantify and confirm such a relationship, computational fluid dynamics (CFD) is suitable. In the present study, 3D echocardiographic recordings of a healthy female were used to create a subject-specific 3D CFD-model of the left ventricle, mitral valve (MV) and ascending aorta. Four different MV geometries, ranging from normal to severe billowing of the anterior leaflet were simulated and analyzed during left ventricular systole.

Consultant Mai Tone Lønnebakken: Multimodality Imaging in Non-obstructive Coronary Artery Disease

Non-obstructive coronary artery disease is common, in particularly in women, and associated with increased morbidity and mortality. In contrast to obstructive coronary artery disease, easily diagnosed as a significant stenosis (>50% lumen diameter reduction) on the coronary angiogram, non-obstructive coronary artery disease is characterized by a nearly normal coronary angiogram and represent a diagnostic challenge.
Recent development in computer tomographic (CT) coronary angiography however, permits accurate assessment of coronary artery atherosclerosis, including assessment of coronary artery plaque area, volume and distribution, as well as plaque composition and vulnerability. In this project we evaluates if detailed assessment of the coronary arteries by CT coronary angiography can predict presence and severity of stress induced myocardial ischemia by myocardial contrast stress echocardiography and to identify angiographic, clinical and biochemical markers of myocardial ischemia in patients with non-obstructive coronary artery disease by CT coronary angiography.