Conclusion: In our study, echocardiography remains the essential imaging method to diagnose cardiac tumors. Now, with technological advances, cardiac CT and MRI imaging are changing the diagnostic approach, particularly in case of malignant tumors.

Materials and methods: in 115 patients with known or suspected coronary disease, dipyridamole stress magnetic resonance perfusion examination was performed at 3 T. Vasodilatation was induced with dipyridamole (0.84mg/kg over 4 minutes) and followed by first-pass perfusion imaging (3T EXCITE, GE MEDICAL SYSTEMS). Stress testing was classified as pathological if more than one segment showed an inducible perfusion deficit without delayed-enhancement. Coronary angiography was performed in all positive patients.

Results: One of 115 patients could not be evaluated owing to poor-quality images. Induced myocardial ischemia was found in 29 patients. 6 patients had perfusion deficit in two different coronary territories. Perfusion deficit was showed in 3,2 segments. Significant coronary stenosis (more than 50%) was showed in the induced myocardial ischemia territory in 26 patients with a positive predictive value of 89.6%. Dark rim artefacts explained the 3 cases of perfusion deficit (less than 3 segments) without coronary lesion. No complication occurred during examination. During a median follow-up of 512 days (at least 12 months), 1 patient with negative stress testing was admitted for unstable angina, no cardiac death and no myocardial infarction were documented.

Conclusion: CMR perfusion stress test at 3 tesla is a feasible and a safe technique. In this small cohort, positive predictive value is good and the prognosis of normal stress test at 1 year is excellent.

Evaluation of left ventricular systolic function using automated angle independent motion tracking of mitral annular displacement (MAD)

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Aim: To validate the accuracy of MAD (mitral annular displacement) assessed as a surrogate for determination of the left ventricular function in comparison with biplane LVEF and 3D LVEF.

Methods and results: 133 patients with a variety of cardiac pathologies underwent 2D, DTI and 3D echocardiography. MAD was used to detect mitral annular motion off-line the apical four chamber using the hinge point of the mitral valve leaflets with the septal and lateral aspects of the mitral annulus as user-defined anatomic landmarks. Mean age was 70±16.7 years, 67 were male and 37 had symptomatic heart failure.

4-chamber MAD was correlated with biplane LVEF (R²=0.49, p<0.0001) and 3D LVEF (R²=0.37, p<0.0001). Negative correlation was found between MAD and age (R²=0.2, p<0.0001). A value of MAD <10mm predicted left ventricular dysfunction (biplane LVEF<50%) with a sensitivity of 93% and a specificity of 76%. A value of MAD -12 mm predicted 2D LVEF - 50% (negative predictive value of 100%).

Conclusion: We found a significant correlation between both measures of systolic function, MAD, biplane EF and 3D LVEF. As shown by De Cara and colleagues, MAD is a rapid and reproducible method of determining global systolic function.

Determinants of non invasive coronary flow reserve in severe aortic stenosis

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