decrease contrast enhancement at rest without changes after ADN was considered a fixed perfusion defect (FD).

Results: Arrhythmia was observed in 278 segments. NP, PD, and FD were found in 18 (6.5%), 54 (19.5%) and 206 (74%) territories respectively. All 18 akinitic segments and NP were observed in pts submitted to a successful revascularization procedure. 37/64 (58.5%) akinitic segments and RD, and 28/206 (13.5%) akinitic segments were also related to successful revascularization procedures.

Conclusion: ACE is a feasible method to study myocardial perfusion in humans and the additional information about the different types of perfusion defects could be useful in the management of myocardial viability.

752 Left ventricular function improvement and left ventricular remodeling in patients with myocardial contrast echocardiography (MCE) during coronary angioplasty (PTCA) with PTCA.


Background: Early perfusion recovery after AMI decreases mortality, limits the infarct size, reduces change of LV geometry, and allows to maintain its global function. At present there are no published data on relationship between remodeling, left ventricular function improvement and assessment of myocardial integrity with use of the MCE (myocardial contrast echocardiography). The goal of the study is the comparison of predictive value of rt MCE for predicting LV function improvement and occurrence of remodeling and assessing its timing.

Methods: 42 patients (29 male, 16 yrs), with first anterior wall myocardial infarction (onset 6 hours), treated with PTCA who on the second day underwent rt MCE with use of low ultrasound intensity (MI 0.14) and low emission power is safe with respect to the occurrence of arrhythmias in 37/54 (68.5%) territories respectively. All 18 akinetic segments and NP were observed in pts submitted to a successful revascularization procedure. 37/64 (58.5%) akinitic segments and RD, and 28/206 (13.5%) akinitic segments were also related to successful revascularization procedures.

Conclusion: ACE is a feasible method to study myocardial perfusion in humans and the additional information about the different types of perfusion defects could be useful in the management of myocardial viability.

Results: 752

753 Real-time intravenous myocardial contrast echocardiography using low emission power is safe with respect to the occurrence of arrhythmias in healthy volunteers

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Purpose The occurrence the premature ventricular contractions (PVC) has been reported previously in healthy volunteers during triggered harmonic imaging with relatively high ultrasound intensities. We assessed whether PVCs and premature atrial contractions (PACs) occurred during intravenous real-time myocardial contrast echocardiography (IVMCE) using low emission power.

Methods Thirty five healthy volunteers underwent IVMCE using the ATL 6000 with power pulse inversion and continuous infusion of Sonovue® microbubbles (0.7-1.0 ml/min) at rest and during adenosine stress. Microbubble destruction was achieved with a burst of high energy ultrasound (MI 1.0), followed by imaging of contrast re-annihilation with low MI (0.14). Before infusion of contrast, heart rate was monitored for 8 minutes. The occurrence of the mean number of premature contractions per minute during IVMCE was assessed before contrast infusion, at rest, and during vasodilator stress.

Results At baseline, PVCs occurred in 1 subject. No PAC were demonstrated at baseline. At baseline, PVCs occurred with a mean ± SE PAC/min, which tended to increase to 0.05 PAC/min at rest (P=NS), and 0.04 PAC/min during hyperemia (P=NS). PVCs occurred with a mean of 0 PAC/min at baseline, and tended to increase to 0.01 PAC/min at rest (P=NS), and 0.02 PAC/min at hyperemia (P=NS).

Conclusion Real-time myocardial contrast echocardiography with continuous infusion of contrast and low emission-power is safe with respect to the occurrence of arrhythmias.

754 Assessment of myocardial perfusion in patients with triple vessel disease of coronary artery using quantitative real-time myocardial contrast echocardiography

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Objective: To evaluate the relationship of the coronary angioplasty, wall motion and myocardial blood flow (MBF) in patients with triple vessel disease using quantitative intravenous real-time myocardial contrast echocardiography (RT-MCE).

Methods: Thirty-two patients (27 men, mean age 57±6 years) with triple vessel coronary artery angioplasty underwent MCE. MCE was performed during intravenous administration of Sonovue® (Bracco) at ml/min. Philips SONOS 7500 with 53 probe was used. Myocardial perfusion was quantified offline using the QLAB Advanced Quantification software (Philips Ultrasound). Left ventricular myocardium was divided into 17 segments. Plateau myocardial contrast intensity (A), ratio of rise (b) and MBF (Q = A × b) were obtained.

Results: In segments with impaired vessel supply, MBF was significantly lower in segments with abnormal wall motion than segments with normal wall motion (1.06±0.9 vs 10.6±2.5, 54.4±0.01). Segments with normal wall motion were divided into 2 groups. Group 1 consisted of 50 segments, which supplied by 70% or more than 70% stenotic coronary arteries. Group 2 included 134 segments supplied by more than 70% stenotic coronary arteries. There were no significant difference in A (8.26±4.01 vs 9.07±7.69, P>0.05) and Q (11.20±10.5± vs 9.07±11.0, P>0.05) between group 1 and group 2. But b in group 2 was significantly lower than that in group 1 (1.15±0.21 vs 1.45±0.38, P<0.05).

Conclusions: This study shows a potentially valuable role for RT-MCE in quantitatively assessing myocardial perfusion in patients with triple vessel lesion of coronary artery.

756 HeartBeat, a tool to compare and align 3D cardiac data sets of different imaging modalities

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Methods: Two 3D echo datasets (A) and MRI (B) images were compared. Superimposition of datasets allows a user to interactively align them by transparency (fig 1), or in a checkerboard pattern. The software can import and process data from different imaging modalities. The user can then navigate through the datasets to obtain cross sections located at identical cardiac positions to compare heart structure and deformation. Cross sections can be displayed in different colours, with different levels of transparency (fig 1), or in a checkerboard pattern. The software can import and process other 3D echo datasets or 3D datasets from any other imaging modality such as MRI, nuclear imaging etc.

Results: Preliminary results show the comparison and alignment procedure of two 3D echo datasets and 3D echoMRI datasets (figure). Further results will be demonstrated at the conference.

Conclusion: HeartBeat provides a quick way of aligning and comparing identical slices in 3D data sets from different imaging modalities. This is a prerequisite for further validation studies in 3D echocardiography and for fusion of different imaging modalities.

757 Prosthetic valve imaging with live three dimensional echocardiography

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Introduction: Live 3-dimensional echocardiography (3DDE) is a breakthrough in