

M176

Live 3-D stress echo: is beauty also a sign of intelligence?

F. Rigo<sup>1</sup>, G. Ossena<sup>1</sup>, V. Cutaia<sup>1</sup>, M. Richieri<sup>1</sup>, L. Pratali<sup>2</sup>, A. Raviele<sup>2</sup>, E. Picano<sup>1</sup>

<sup>1</sup>Mestre Hospital, Mestre, Italy; <sup>2</sup>Cnr, Institute Of Clinical Physiology, Pisa, Italy

**Background:** Last generation 3-D live stress echo has potential for adding "beauty" (seductive display) and also "intelligence" (unique quantitative information) to the robust, albeit qualitative, classic 2-D stress echo based on wall motion analysis.

**Aim:** to assess feasibility of 3-D stress echo.

**Materials and methods:** From May 2005, we enrolled 214 consecutive patients (age=64±11 years; 88 females) routinely screened for suspect coronary artery disease with dipyridamole (0.84 mg/kg in 6') stress echo. Transthoracic echocardiography (2D, 3D and coronary flow reserve, CFR, by pulsed Doppler) was performed with commercially available systems (iE33) using phase array probes (1-5 and 3-8 MHz, S5-S8) and a matrix 3D probe for 3D-Live application. Each data set was analyzed with a dedicated software (3DQ, QLab - Advanced Ultrasound Quantification Software - vs. 4.1 and 4.2, Philips Electronics), including 3D volumes and dissynchrony index (DI), considered as the mean value of standard deviation of maximum time to systolic volume variation.

**Results:** Interpretable 2D data were obtained in all pts (100 % feasibility), CFR data on left anterior descending artery in 185 pts (88 %) and 3D data in 151 pts (70 %). In the 48 pts with negative stress echo (for wall motion criteria) by 2D and 3D, 3D-DI decreased (rest=1.3±.8 vs. stress=.99±.54, p<.001): see figure. In patients with normal resting echo and positive stress echo, 3D-DI increased (rest= 4.5±1.9 vs. stress= 8.3±3.2, p<0.01).

Last generation live 3D dipyridamole stress echo still suffers a feasibility gap vs. 2D and Doppler-CFR stress echo, but shows potential for adding substantial "beauty" (convincing display) and perhaps some extra-"intelligence" (quantitative support) to classic stress echo.

