Stress Echo 2020: ad-interim report as per February 1, 2018.

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**Background:** The curiosity-driven effectiveness trial "Stress echo (SE) 2020" (ClinicalTrials.gov ID: NCT03049995) started in late 2016 to provide prospective, international, large scale evidences on SE utilization in the real world within and beyond coronary artery disease. The target is to have 100 centers recruiting 10,000 patients on 10 different subprojects by the end of 2020.

**Purpose:** to assess the progress of SE2020 at 16 months after study kick-off.

**Methods:** Cardiologists-echocardiographers from 54 different laboratories of 17 countries (Argentina, Bosnia-Herzegovina, Brazil, Bulgaria, Costa Rica, Hungary, Italy, Lithuania, Mexico, Poland, Portugal, Romania, Russian Federation, Qatar, Serbia, UK, US) passed the quality control procedures and could start recruitment. The chosen stress (largely left to physician choice and tailored on the specific diagnostic question) was exercise in 1266 (59%), dipyridamole in 745 (35%), and dobutamine in 142 (6%) patients. The optimal core protocol was quadruple imaging: regional wall motion abnormalities (RWMA, mandatory in all); B-lines (simplified 4-site scan); left ventricular contractile reserve (LVCR, force stress/rest); coronary flow velocity reserve (CFVR) on left anterior descending coronary artery with pulsed Doppler.

**Results:** As per February 1, 2018, we enrolled 2930 patients distributed per-protocol as follows: candidates to cardiac resynchronization therapy (n=11, target by the end of 2020=250); heart failure with reduced ejection fraction (n=149, target 2,500); hypertrophic cardiomyopathy (n=91, target 250); heart failure with preserved ejection fraction (n=28, target 250); valvular heart disease post-Transcatheter Aortic Valve Implantation (n=37, target 250); extreme physiology in athletes and high altitude trekkers (n=190, target 250); adult congenital heart disease with repaired Tetralogy of Fallot (n=38, target 250); borderline, early or at risk pulmonary hypertension (n=132, target 250); known or suspected coronary artery disease (n=2,251 patients, target 5,000); genetic stress echo in phenotype-negative offspring of familial primary hypertension, dilated cardiomyopathy or hypertrophic cardiomyopathy (n=3, target 250). By imaging modality, 411 patients had dual, 931 triple, and 1366 quadruple imaging (see figure).

**Conclusions:** The effectiveness, curiosity-driven, observational SE2020 study is feasible in a large international network with dissemination of novel parameters progressively converging into quadruple imaging as the core A-B-C-D (Asynergy+B-lines+Contractile reserve+Doppler flowmetry) protocol: RWMA, B-lines, LVCR, and Doppler-CFVR. The new SE profile is more fit to test the emerging applications of SE, mainly outside coronary artery disease.

Figure caption: Patient recruitment by SE modality