EXTRACORPOREAL SHOCKWAVE MYOCARDIAL REVASCULARIZATION IMPROVES ANGINAL SYMPTOMS, EXERCISE TOLERANCE AND ISCHEMIC BURDEN IN PATIENTS WITH REFRACTORY ANGINA PECTORIS: A MULTICENTER STUDY

Poster Contributions
Hall C
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Session Title: Stable Ischemic Heart Disease: Focus on Non-Invasive Approaches
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Background: Medically refractory angina is a significant health concern despite advances in revascularization techniques and emerging medical therapies. Extracorporeal Shockwave Myocardial Revascularization (ESMR) may be a safe and efficacious treatment for medically refractory angina.

Methods: This is a single arm multicenter prospective pilot study which enrolled 111 patients from 3 centers with Canadian Cardiovascular Society (CCS) class II-IV, despite optimal medical management and reversible ischemia, echocardiography, and SPECT from 2010-2012. Patients underwent 9 ESMR treatments over 9 weeks and were followed 4 months post-ESMR with physical exam, symptom assessment, SPECT and echocardiogram.

Results: Mean age was 62.9 ± 10.9 years, and 83.8% were male. Hypertension was reported by 77%, three-vessel disease by 76%, and congestive heart failure by 36%. Summed stress score (SSS) and summed difference score (SDS) improved significantly on SPECT, sublingual nitroglycerin use significantly decreased (p=0.02) and maximal exercise time increased significantly at follow-up (p<0.0001) (Figure 1). Seattle Angina Questionnaire (SAQ) score also improved significantly in 83% (p<0.0001) and CCS score improved in 74.1% of subjects. There was no change in left ventricular function on echocardiography and no adverse events were noted.

Conclusion: This is the first and largest multicenter, prospective study demonstrating that ESMR may be both safe and efficacious in managing refractory angina.