METHODS The medical records of 20 patients (47 females, mean age 55+/-13 years) who underwent PTMC were reviewed. Prior to PTMC, a combination of transthoracic and transesophageal echocardiography were used to investigate all essential mitral valve morphological subcomponents (thickening, mobility, calcification, and subvalvular thickness) and suitability for PTMC. The second transthoracic echocardiographic assessment was performed within 12 months after PTMC. Patients were divided into two categories of successful or unsuccessful according to PTMC results. Successful PTMC was defined as: final mitral valve area (MVA) >1.5 cm² without a post-procedure mitral regurgitation (MR) grade >2. The significant predictor of the result was identified by comparing demographic data, initial echocardiographic assessments and mitral valve morphological scores within both groups.

RESULTS The mean MVA increased from 0.9 ± 0.3 cm² to 1.5 ± 0.2 cm², and mitral valve mean gradient (MVMG) decreased from 12 ± 5 to 5 ± 3 mmHg (P < 0.005 for both). Successful results were obtained in 51 (73%) patients compared to unsuccessful results in 19 (27%). Unsuccessful results were due to suboptimal secondary MVA < 1.5 cm² in 19 (25.5%) patients and post-procedure MR grade >2 in 3 (4%). Multivariable logistic regression analysis indicated that young age, lower size of the left atrium (LA), and smaller degree of mitral valve calcification were the predictors of successful result of PTMC.

CONCLUSION Pre-procedural echocardiographic assessment is very helpful in predicting PTMC results. Successful PTMC is influenced by the patients’ age, LA size, and mitral valve calcification.

TCTAP A-159
Optical Coherence Tomography Assessment of Calcium Fracture by Percutaneous Coronary Intervention in Heavily Calcified Lesions
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BACKGROUND Heavily calcified lesions in coronary arteries have been known as a cause of stent under expansion, which increases the risk of in-stent restenosis. The aim of the present optical coherence tomography (OCT) study was to investigate the clinical impacts of coronary calcium fracture by percutaneous coronary intervention (PCI) on the outcomes after everolimus-eluting stent implantation.

METHODS We enrolled 61 patients with chronic stable angina who had a heavily calcified culprit lesion on coronary angiography. OCT was performed before and immediately after PCI. Follow-up angiography was conducted at 10 months after PCI.

RESULTS Calcium fracture was seen in 48% of patients by OCT. The median calcium fracture thickness was 450 μm (interquartile range 300 to 660 μm). The maximum calcium fracture thickness was 770 μm. Minimum stent area was significantly greater in the group with calcium fracture compared with the group without calcium fracture (5.0±1.2 mm² vs. 3.8±2.2 mm², P=0.03). At 10 months follow-up, the frequency of binary restenosis (5% vs. 4%, P=0.024) and target lesion revascularization (17% vs. 28%, P=0.04) was significantly lower in the group with calcium fracture compared with the group without calcium fracture.

CONCLUSION This study reveals that coronary calcium fracture by percutaneous coronary intervention was associated with adequate stent expansion and favorable late outcomes.

TCTAP A-160
Percutaneous Transvenous Mitral Commissurotomy: Significance of Echocardiographic Assessment in Prediction of Long Term Result
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BACKGROUND This study aims to identify demographic, clinical characteristics, echocardiographic and/or mitral valve morphological subcomponents that may predict the successful result of percutaneous transvenous mitral commissurotomy (PTMC).