Table 1a. Baseline Characteristics-Unadjusted Analysis Variable Name

	Orbital atherectomy (N=91)	Rotational atherectomy (N=131)	P value
Age (Years)	67.44 ±8.85	70.34 ±10.83	**0.036**
Female	38 (41.8%)	37 (28.2%)	**0.001**
BMI (kg/m2)	35.25 ±4.79	34.54 ±5.48	0.318
Smoker (n)	18 (19.78%)	17 (12.98%)	0.173
Hypertension (n)	85 (93.40%)	126 (96.18%)	0.351
Dyslipidemia (n)	84 (92.30%)	120 (91.60%)	0.851
Premature CAD (n)	2 (2.20%)	7 (5.34%)	0.244
Prior MI (n)	28 (30.77%)	55 (41.99%)	0.090
Prior Heart Failure (n)	22 (24.18%)	27 (20.61%)	0.531
Prior Valve Surgery (n)	0 (0%)	2 (1.53%)	0.238
Prior PCI (n)	40 (43.96%)	76 (58.01%)	**0.039**
Prior CABG (n)	11 (12.08%)	31 (23.66%)	**0.030**
Dialysis (n)	7 (7.69%)	9 (6.87%)	0.817
Cerebrovascular Disease (n)	9 (9.89%)	20 (15.26%)	0.244
Peripheral Vascular Disease (n)	11 (12.08%)	26 (19.85%)	0.128
Chronic Lung Disease (n)	7 (7.69%)	18 (13.74%)	0.162
Diabetes Mellitus (n)	60 (65.93%)	78 (59.54%)	0.366
Pre PCI LVEF (%)	54.24±10.73	51.89±1.41	0.147
ACS (n)	14 (15.4%)	21 (16.0%)	0.764
Unstable Angina (n)	58 (63.7%)	83 (63.4%)	0.954
Stable Angina (n)	18 (19.8%)	22 (16.8%)	0.571

CRT-200.29

Evaluation Of Lesion Flow Coefficient For The Detection Of Coronary Artery Disease In Patient Groups From Two Academic Medical Centers

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BACKGROUND In this study, lesion flow coefficient (LFC: ratio of % area stenosis [%AS] to the square root of the ratio of the pressure drop across the stenosis to the dynamic pressure in the throat region), that combines both the anatomical (%AS) and functional measurements (pressure and flow), was assessed for application in a clinical setting.

METHODS The population consisted of patient-level pressure, flow, anatomical details from 251 vessels. Eighty-four vessel data was obtained from the clinical protocol approved by the Institutional Review Board at the University of Cincinnati and the research and development committee at the Cincinnati Veteran Affairs Medical Center. One hundred and sixty seven data points were obtained from the study by van de Hoef et al., 2012, based on a similar protocol approved by the institutional ethics committee at Academic Medical Center-Amsterdam.Patients of 18 years or above with an abnormal stress test indicating reversible ischemia were considered for enrollment into the study. Patients with by-pass grafts, baseline serum Creatinine > 2.5 mg/dl, pregnant women, and significant co-morbid conditions that incapacitated the patients from the consent process were excluded from the study.Fractional flow reserve (FFR), Coronary flow reserve (CFR), hyperemic stenosis resistance index (HSR) and hyperemic microvascular index (HMR) were calculated. Anatomical data was corrected for the presence of guidewire and the LFC values were calculated.

RESULTS LFC correlated significantly when the FFR (pressure-based), CFR (flow-based), and anatomical measure %AS were combined ($r = 0.64$; $p<0.05$). Similarly, LFC correlated significantly when HSR, HMR, and %AS were combined ($r = 0.72$; $p<0.05$). LFC was able to significantly ($p < 0.05$) distinguish between the two concordant and the two discordant groups of FFR and CFR, corresponding to the clinically used cut-off values (FFR=0.80 and CFR=2.0). The LFC could also significantly ($p < 0.05$) distinguish between the normal and abnormal microvasculature conditions in the presence of non-significant epicardial stenosis, while the comparison was borderline significant ($p = 0.09$) in the presence of significant stenosis.

CONCLUSION LFC, a parameter that combines both the anatomical and functional end-points, has the potential for application in a clinical setting for CAD evaluation.

CRT-200.30

Three Years Follow-up Of The Eraci IV Registry - A Modified Syntax Score For The Treatment Of Multiple Vessel Disease And Left Main Stenosis

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PURPOSE To evaluate the long term efficacy and safety of newer drug eluting stent generations (2-DES) for the treatment of multiple vessel disease and left main stenosis compared to first generation of DES (1-DES) and to validate a new score based in functional revascularization of coronary artery disease.

METHODS The ERACI IV Registry is a multicenter and prospective open label study that evaluated a chromium cobalt rapamycin second generation DES (Firebird-2™, Microport Inc. Shangai, China) for the treatment of patients with multiple vessel coronary artery disease including left main stenosis and indication for myocardial revascularization with angiographic evidence of severe coronary obstructions (Stenosis ≥70% by visual estimation). Exclusion criteria were prior PCI in the previous 6 months or previous DES at any time, myocardial infarction in the preceding 72 hours, reduction in ejection fraction (< 35%), Patients with one coronary artery lesion excluding left main disease and more than one total occlusion, severe valvular heart disease, limited life expectancy, prior cerebrovascular accident, neutropenia or thrombocytopenia, double antiplatelet therapy intolerance or impossibility to receive long-term therapy or not amenable for the implantation of DES. 15 participating sites included 225 consecutive patients who signed Informed Consent Form, 11.8% of the overall PCI performed in those centers, in accordance with the ERACI III population which included identical number of patients treated with 1st generation DES (Cypher, Cordis-Johnson&Johnson, Miami Lakes, FL, USA) and Taxus Express (Boston Scientific Corp., Boston, MA, USA). Primary end point was the incidence of major adverse cardiovascular events (MACCE) in the Firebird 2 arm and subsequently an indirect comparison with ERACI III patients (1st generation DES) was done. The end point was recorded at 30 days, 6, 12, 18, 24 and 36 months of follow-up. Secondary end points include the incidence of target lesion and vessel revascularization (TLR and TVR respectively) and stent thrombosis. Dual antiplatelet therapy (DAPT) was required for all patients. Aspirin 100 mg was administrated orally at least 1 hour prior to catheterization and an oral loading dose of thienopyridines (P2Y12): either clopidogrel (300 to 600 mg), prasugrel (60 mg) or ticagrelor (180 mg). In ERACI IV, DAPT was mandatory for 6 months but strongly recommended for the entire follow up period and includes either clopidogrel (75 mg/day), prasugrel (10 mg/day) or ticagrelor (90 mg/12 hours). As part of revascularization strategy, the protocol suggested that prasugrel and/or ticagrelor should be preferred P2Y12 selected in patients with diabetes, complex left main or higher Syntax score. An independent blind clinical events committee adjudicated all reports events of MACCE and other clinical events, including stent thrombosis and ERACI IV followed Good Clinical Practice and Argentina dispositions for Clinical registries. Revascularization strategy was planned prior to the procedure with the objective of achieve complete functional revascularization (CFR), meaning that PCI was consider functional if no residual severe stenosis (≥70%) remained in any major epicardial vessel and all severe stenosis had been treated successfully with stents, to achieve this strategy staged procedures were allow. Provisional stent strategy in all bifurcations was recommended and lastly severe stenosis in vessels < 2.0 mm was strongly discouraged and usually none attempted. In ERACI IV patients, original SS was calculated, however we also used a modification of the original SS, excluding from the analysis all intermediate lesions and also severe stenosis in vessels<2.0mm; in stent restenosis was scored as heavy calcified stenosis. In ERACI IV sample size was estimated in accordance with the population included in ERACI III-DES arm. In such study, incidence of the primary endpoint of MACCE at 1 year of follow-up among patients treated with 1st generation DES, 12% of MACCE and 7% of death/MI/CVA. Taking in account that second generation DES reported a