>10 minutes), stent thrombosis, repeat revascularization, major bleeding (BARC definition), stroke and 30-day survival.

RESULTS Mean age was 68±12 years, 86% male with mean EF 31±14% (Table). MV-CAD was present in 6 (86%) and UPLMD in 4 (57%). Mean SYNTAX score was 37±14. CardioHELP was removed at the completion of PCI in 5 (71%). PCI was successful in all patients. In-hospital mortality occurred in 2 patients (mean SYNTAX score 51.5±9.2); the other 5 patients had a 30-day survival of 100%. No patient required repeat revascularization.

CONCLUSION Temporary use of ECMO with the CardioHELP device enables excellent hemodynamic support during high-risk PCI in patients with prohibitive surgical risk. The CardioHELP device may be a viable option for facilitating procedural success in patients with severe left ventricular dysfunction requiring high-risk PCI.

Table. Baseline risk scores, angiographic details, and clinical outcomes.

Baseline Risk	
Cardiogenic shock	3 (43%)
On vasopressor support during PCI	4 (57%)
STS score	8.8 ± 8.2
Euroscore II	6.5 ± 5.1
Logistic Euroscore	14.2 ± 14.7
Angiographic characteristics	
Multi-vessel disease	6 (86)
Bifurcation lesion	4 (57%)
Left main coronary artery stenosis	4 (57%)
Chronic total occlusion	3 (43%)
Total number stents	4.6 ± 1.7
SYNTAX Score	37 ± 14
Mean number of vessels treated	2.6 ± 0.97
Intra-aortic balloon pump use	5 (71%)
Rotational atherectomy	3 (43%)
Clinical outcomes	
Acute stent thrombosis	1 (14%)
Freedom from hemodynamic compromise	5 (71%)
Acute limb ischemia	1 (14%)
Stroke	0 (0)
Bleeding (BARC type 3a or greater)	1 (14%)
In-hospital mortality	2 (29%)

Categorical values are presented as number (%); continuous variables are presented as mean ± standard deviation.

CRT-600.10

Local Delivery of a Bioinspired Proteoglycan Mimetic SB-030 Ameliorates In-Stent Thrombogenicity and Inflammation in an Ex Vivo Swine Shunt Model

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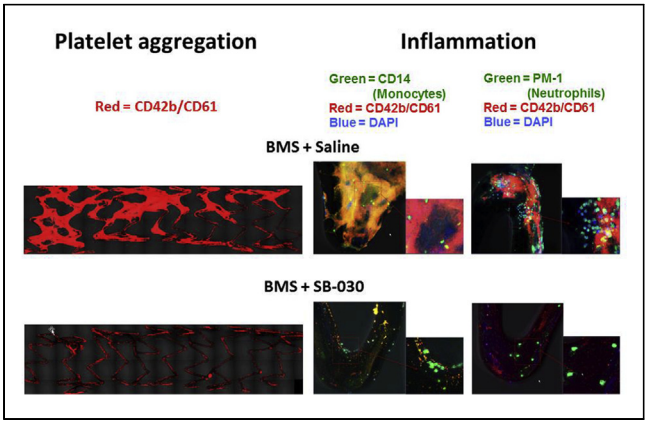
BACKGROUND Symic Bio has developed a novel bioinspired molecule (SB-030) designed to mimic native proteoglycans capable of binding exposed collagen thereby providing a localized barrier to platelets and inflammatory cells at the vessel wall. In this preliminary proof-of-concept study, the anti-thrombogenic property of SB-030 in acute stent thrombosis in a porcine low-dose heparin extracorporeal shunt model was assessed.

METHODS Bare metal coronary stents (BMS: Omega®) coated with Bovine collagen I were deployed in custom fabricated Sylgard tubing, which was connected to an extracorporeal AV- carotid shunt of porcine in an acute (0 to 1 hour) setting (Otsuka F et al, JACC Cardiovasc Interven 8: 1248-1260, 2015). Stents were initially primed with saline (BMS-Sa) or SB-030 (BMS-SB) for 3 to 5 min before exposure to circulating blood. At the conclusion of each run, stents were fixed in 4% paraformaldehyde, bisected in half and dual immunostained using platelet cocktail (CD61/CD42b) and inflammatory marker for neutrophils (PM1) or monocytes (CD14). Antibody staining was visualized by confocal microscopy and quantified by histomorphometry.

RESULTS Preliminary analysis of BMS-SB showed a lower percentage of adherent platelets on struts as compared to BMS-Sa (36.2 ± 0.8% vs. 116.5 ± 15.5%) (Figure). Moreover, inflammatory cell density (positive cells/mm^2) was lower for BMS-SB as compared with BMS-Sa for both neutrophils (163.5 ± 51.6 vs. 1243.0 ± 921.4) and monocytes (136.0 ± 7.1 vs. 265.0 ± 161.2). Overall results will be reported on 12 stents (n=6) per group at the time of presentation.

CONCLUSION This study confirmed the potent effect of SB-030 to ameliorate thrombogenicity and inflammation of vascular stent in an acute model and may prove a beneficial adjunct treatment option, particularly in the setting of peripheral artery disease.



CRT-600.11

Uncoupling Cardio-renal Hemodynamics in Heart Failure: Effects of an Intra-aortic Micro-axial Flow Pump in a Swine Model of Ischemic Heart Failure

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BACKGROUND Heart failure complicated by renal hypo-perfusion is a major cause of global morbidity and mortality. Increasing cardiac output, reducing cardiac workload, and increasing renal perfusion are major objectives for heart failure management. We explored the hemodynamic effect of a micro-axial flow pump positioned in the abdominal aorta above the renal arteries in a model of ischemic heart failure.

METHODS Five adult swine underwent 120 minutes of left anterior descending artery occlusion followed by reperfusion and recovery. After 28 days, animals underwent Aortix (Procyrion, Houston, TX) implantation and activation in the descending aorta via the left femoral artery. Aortic pressures, pulmonary artery catheter data, pressure-volume loop data, coronary flow and carotid pressures were obtained at baseline and at incremental ramp speeds: low (22-25K), med (28-30K), high (34-37K).

RESULTS Aortix activation increased distal aortic pressure, generating a trans-aortic gradient at all speeds ($p<0.01$) (Figure 1). Aortic root pressures were unchanged. LV volumes increased at low and med ($p<0.05$) speeds. At low speeds, thermodilution cardiac output (CO) increased from 5.3±0.9 L/min to 7.2±1.4 L/min ($p=0.046$). Transpulmonary gradient (TPG) increased at med and high speeds ($p<0.05$). PA compliance ($p=0.01$) decreased between low and high speeds. A trend towards increased urine output was observed. Cardiac filling pressures, carotid pressures, coronary flow, and left ventricular stroke work were unchanged.

CONCLUSIONS Aortix activation generates a trans-aortic pressure gradient and increases CO in a swine model of ischemic heart failure. Changes in PA Compliance, TPG, and LV volumes may reflect increased venous return to the right ventricle. Further investigation of the potential utility of the Aortix pump in heart failure is required.