TCT-735

The presence of concomitant chronic total occlusion in patients with ischemic heart failure is related with worse long-term outcomes – report from COMMIT-HF registry.

Mateusz Tajstra,[1] Michal Hawranek,[1] Lukasz Pyka,[1] Adam Krajewski,[1] Elzbieta Gadula-Gacek,[1] Damian Pres,[1] Andrzej Lekston,[1] Marek Gierlotka,[1] Mariusz Gasior[1]
[1]Medical University of Silesia, Silesian Center for Heart Diseases, Zabrze, Poland

BACKGROUND Many reports showed that the presence of concomitant chronic total occlusion (CTO) in a non-culprit lesion in acute coronary syndromes is associated with impaired prognosis. However, there is insufficient data evaluating the effect of concomitant CTO in patients with ischemic systolic heart failure (HF). The aim of our analysis was to assess the effect of the concomitant CTO on long-term prognosis in patients with ischemic systolic HF.

METHODS The COMMIT-HF is an ongoing single-center systolic HF registry (inclusion criteria: HF with LVEF <35%, exclusion: ACS). A total of 1798 patients were enrolled since 2009. Among them we have selected a subset of ischemic HF subjects who underwent elective coronary angiography (n=675). The patients were divided into two groups with regard to CTO presence (not protected by a patent vascular graft). All of the analyzed patients are followed up for a period of at least 12 months with all-cause mortality defined as primary endpoint.

RESULTS Baseline patient characteristics are presented in Table 1. The comparison of echocardiographic parameters and administered medical treatment showed no significant differences. In both groups around half of subjects had PCI performed (46,7% vs. 56,4%, p=0,01). 12-month follow-up revealed significantly higher mortality in the CTO group (19,4% vs 10,3%, p<0,001), evident also after 24 months (26,6% vs. 17,6%, p=0,01). This was also observed in the subgroup of pts who underwent PCI (12-month mortality 17,6% vs 9.8%, p=0,03, 24-month 25,2% vs 18,1%), p=0,15). Multivariate analysis revealed that the presence of concomitant CTO was an independent factor increasing mortality (OR 2,34, 95% CI 1,38-3,96, p=0,001).

	CTO, n=278	Non-CTO, n=397	p
Sex	236M vs 42F	315M vs 82F	0.06
Age	65.4±10,5	63.9±10,6	0.07
Mean EF [%]	26.8±5,5	27.1±5,9	0.58
Atrial fibrillation [%]	27.7	26.2	0.66
NYHA III & IV [%]	44.2	44.3	0.99
Chronic kidney disease stage III-V [%]	32.0	30.2	0.68
Diabetes [%]	50.0	43.0	0.07
Post-CABG [%]	38.0	25.9	0.003
Post-MI [%]	76.9	66.2	0.002
ICD/CRT-D [%]	64.7	61.4	0.38

CONCLUSIONS Our analysis showed that in patients with ischemic heart failure the presence of the chronic total occlusion is related to worse long-term outcomes. Therefore, HF patients with concomitant CTO should always be assessed with regard to the viability of CTO recanalization.

CATEGORIES STRUCTURAL: Heart Failure

KEYWORDS Chronic total occlusion, Coronary artery disease, chronic, Heart failure

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Hemodynamic Predictors of Renal Dysfunction and Mortality in Left Ventricular Diastolic Dysfunction and Pulmonary Hypertension

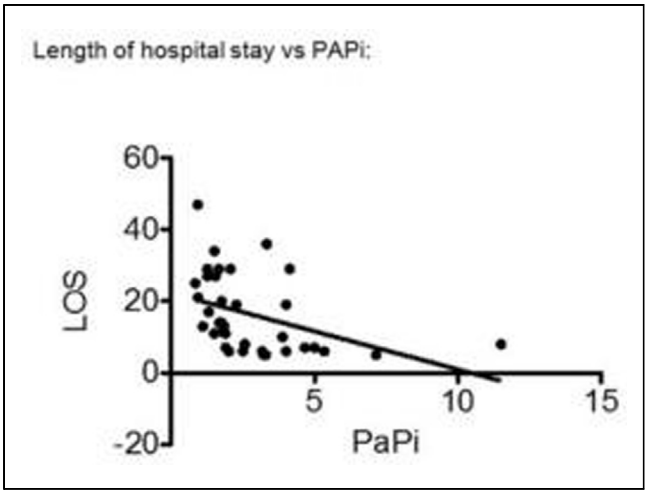
Deepakraj Gajanana,[1] Bhaskar Purushottam,[2] David Wheeler,[1] Sean F. Janzer,[3] Dennis L. Morris,[1] Vincent M. Figueredo[1]
[1]Einstein Medical Center, Philadelphia, PA; [2]Mount Sinai School of Medicine, New York, NY; [3]Einstein Medical Center, Philadelphia, PA

BACKGROUND There is limited data on hemodynamic predictors of renal function in patients with left ventricular diastolic dysfunction and pulmonary hypertension. Our objective was to analyze the strength of correlation between standard and novel hemodynamic indices, including right atrial to pulmonary capillary wedge ratio (RA:PCWP) and pulmonary artery pulsatility index (PAPi), with renal function in patients with diastolic dysfunction {left ventricular ejection fraction (LVEF) ≥50%} who had pulmonary hypertension (mean pulmonary artery pressure >25 mm Hg).

METHODS We retrospectively screened 172 patients with pulmonary hypertension who underwent a right heart catheterization (RHC) between 2007 and 2012 at Einstein Medical Center, Philadelphia. A multivariate logistical regression including standard RHC variables, pulmonary artery pulse pressure (PAPP), PAPi (PAPP/RA) and RA:PCWP ratio was used to identify predictors of renal dysfunction and mortality. Linear regression was used to evaluate PAPi as significant predictors of length of stay.

RESULTS The final cohort consisted of 46 patients, with mean age 60.4±12.2 years and 78.3% male. Among the standard and novel hemodynamic indices, only PAPi independently predicted 90-day mortality (OR 0.832, 95% CI 0.703 - 0.985). Patients who died within 90 days (n=10, 21.7%) had an average lower PAPi than those who survived (1.93±0.42 vs 3.56±0.40, p = 0.05). Patients with PAPi greater than 2.75 had lower rates of renal dysfunction (defined as worsening of GFR by greater than 10 mL/min/1.73 m2) at the time of RHC (9.5% vs 28%). Finally, linear regression confirmed that PAPi is negatively correlated with length of stay (p = 0.013).

Variable	β	P-value	OR	95% CI
RA	0.51	0.08	1.6	0.92 - 2.9
Mean PA	-0.01	0.9	0.99	0.85 - 1.15
PAPP	-0.71	0.21	0.48	0.15 - 1.5
PCWP	-0.39	0.13	0.67	0.39 - 1.13
RA:PCWP	-3.4	0.41	0.03	0.1 - 118.4
PAPi	**-0.19**	**0.03**	**0.91**	**0.7 - 0.9**
Cardiac output	0.31	0.19	1.37	0.85 - 2.2



CONCLUSIONS PAPi is a better predictor of length of stay, renal dysfunction and 90-day mortality than the standard RHC variables in patients with pulmonary hypertension with preserved ejection fraction.

CATEGORIES STRUCTURAL: Heart Failure

KEYWORDS Diastolic heart failure, Hemodynamics, Pulmonary hypertension

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Less Invasive Transcatheter Ventricular Volume Reduction and Reshaping for Ischemic Heart Failure

Horst Sievert[1]
[1]CardioVascular Center Frankfurt CVC, Frankfurt, Germany

BACKGROUND Despite widespread use of percutaneous coronary revascularization techniques and short door to balloon times, myocardial scarring following an acute infarction remains prevalent.