CRT-164

Brachial-ankle Pulse Wave Velocity As A Risk Stratification Index For The Short-term Prognosis Of Patients With Established Coronary Artery Disease

Sang Yeub Lee, sang min Kim, Jang-Whan Bae, Kyung-Kuk Hwang, Dong-Woon Kim, Myeong-Chan Cho
Chungbuk Regional cardiovascular center, Cheongju-Si, Korea, Republic of

BACKGROUND AND OBJECTIVES Pulse wave velocity (PWV) is an index of arterial stiffness and surrogate marker of subclinical cardiovascular disease. The clinical application of baPWV in patients with established coronary artery disease (CAD) remains unclear.

SUBJECTS (MATERIALS) AND METHODS We evaluated that brachial-ankle pulse wave velocity (baPWV), a marker for arterial stiffness can be a risk stratification index to predict prognosis in patients with established CAD. We recruited the patients undergoing emergent or elective CAG and PCI for stable angina or acute coronary syndrome (non-ST-elevation and ST-elevation myocardial infarction, unstable angina). The main outcome measures were cardiovascular (CV) death, definite/probable stent thrombosis (ST), nonfatal myocardial infarction (MI), coronary revascularization (PCI or CABG) and a composite end point of ischemic events. PWV was determined using an automatic volume-plethysmographic device, form PWV/ABI.

RESULTS In total, 925 patients were enrolled (Male 670, 72.4%) with median follow-up of 524 days. All patients received optimal antiplatelet therapy and proper coronary intervention. The higher baPWV was defined as a median baPWV of 1730 cm s-1 or more. The patients were diagnosed as ST elevation myocardial infarction (221, 23.0%), non ST elevation myocardial infarction (221, 23.9%), unstable angina (294, 31.8%), stable angina (189, 20.4%). The composite end points of the study at follow-up of 12 months were cardiovascular death, nonfatal myocardial infarction (MI), and coronary revascularization. At a 12-month follow-up, we found 61 total ischemic events (higher PWV 7.9% vs normal PWV 5.8% (p=0.211)), 18 cardiovascular deaths (2.0% vs 1.9% (p=0.964)), 5 nonfatal MIs (0.8% vs 0.4% (p=0.319)), 3 stent thrombosis (0.6% vs 0.3% (p=0.313)) and 45 target-vessel revascularizations (5.9% vs 4.2% (p=0.241)). In survival analysis, there was no significant difference between patient with higher baPWV and normal velocity. Multivariate analysis revealed that a higher baPWV was not significantly associated with poorer short-term prognosis (hazard ratio, 0.793; 95% confidence interval, 0.529-1.188) in established CAD patients.

CONCLUSIONS baPWV, a marker for arterial stiffness, is not a risk stratification index for short-term prognosis in patients with established CAD patients. Routine use of PWV to predicting future cardiovascular events in patients with established CAD seems to be unnecessary.

CRT-165

The Impact of Monthly Multidisciplinary Formalized Data Feedback on Treatment Times and Outcomes in ST Elevation Myocardial Infarction

Hayder D. Hashim, Atish Mathur, Adam Raskin, Subbaro Boppana, james maher, Christine Gerula, Marc Kalpholz
Rutgers University-New Jersey Medical School, Springfield, NJ

BACKGROUND We have previously reported significant reductions in door-to-balloon (D2B) and recognition-to-reperfusion (R2R) times by use of a fully automated wireless network that transmits 12-lead ECG of patients with suspected ST elevation myocardial infarction (STEMI) from emergency medical services (EMS) personnel in the field to smartphones worn by cardiologists (STAT-MI pathway). We now report the effect of monthly multidisciplinary formalized data feedback on treatment times in STEMI patients who presented through other non-automated STEMI pathways ("walk-in" and un-networked EMS ambulances).

METHODS Prospective data on demographics, cardiac biomarkers, left ventricular ejection fraction (LVEF) and all-cause mortality was collected in 147 who presented through non STAT-MI pathway ("walk-in" and un-networked EMS) between June 2006 to May 2013. D2B, R2R, Total ischemic (TI), door-to-first ECG (D2ECG) and door-to-cardiac catheterization laboratory (D2LAB) times were discussed during monthly multidisciplinary meetings at our institution using a formalized date feedback spread sheets. Total study period was 84 months and data was analyzed by quarters.

RESULTS Between the 1st and 4th quarters median D2B time decreased significantly from 130 to 78.5 minutes (p<0.0001); the median D2ECG time decreased from 25 to 9.5 minutes (p=0.02) and median D2LAB time decreased from 101 to 41.5 minutes (p<0.0001). Post STEMI LVEF increased from 35 ± 12 % to 53 ± 14 % (p=0.009) between 1st and 4th quarters. ECG Selvester score for estimating infarct size decreased from 10.82 ± 4.8 to 5.06 ± 4.5 (p < 0.001).

The survival trend analysis showed improvement in survival rates from 0.70 to 0.90 (p=0.04). Based on cox proportional hazards model the D2B time (HR1.006, p = 0.002), peak troponin (HR 1.004, p = 0.04), hypertension (HR 5.75, p = 0.02) and age (HR 1.04, p = 0.01) were strong independent predictors of mortality.

CONCLUSION Monthly formalized data feedback and detailed multidisciplinary analysis of all STEMI presenters at our institution had resulted in significant reduction in treatment times and improved outcomes. A Halo effect that extended from our previously reported STAT-MI pathway.

CRT-166

Gender Based Differences In Presentation And Outcomes Of Vascular Brachytherapy For Drug Eluting Stent Failure

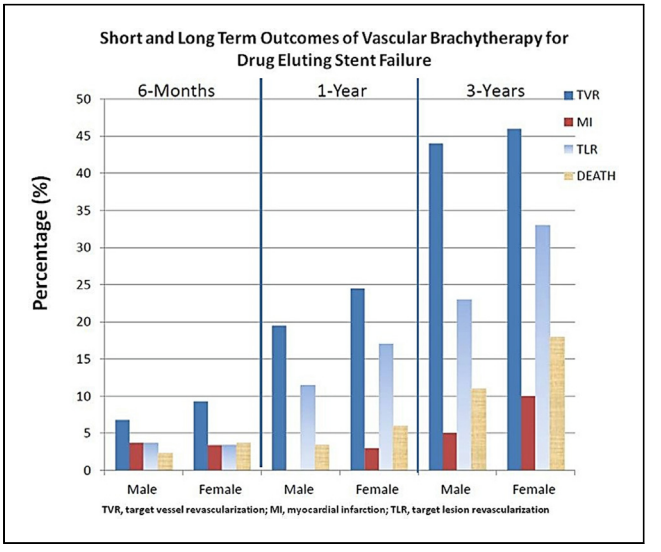
Smita I. Negi, Romain Didier, Sarkis Kiramijyan, Edward Koifman, Nevin Baker, Ricardo O. Escarcega, Itsik Ben-Dor, William O. Suddath, Augusto D. Pichard, Lowell F. Satler, Ron Waksman
Medstar Washington Hospital Center, Washington DC, DC

BACKGROUND Drug eluting stent in-stent restenosis (DES-ISR) has a high recurrence rate in spite of repeat balloon angioplasty or additional DES. Vascular brachytherapy (VBT) is an option for refractory DES-ISR. However, it is unknown if there are gender-based differences in presentation and outcome of recurrent DES-ISR treated with VBT. This study aimed to report the gender-based differences in the baseline characteristics and clinical outcomes of DES-ISR treated with VBT.

METHODS Patients undergoing VBT for DES-ISR were enrolled from an ongoing PCI registry. Demographic, clinical and procedural data were collected. Outcomes of the study were target lesion failure (TLR), cardiac death, myocardial infarction (MI), and clinically driven target vessel revascularization (TVR) up to 3 years.

RESULTS A total of 100 men and 62 women underwent VBT for DES-ISR between years 2003-2008. Mean age of the 2 groups was similar. Women more often presented with unstable symptoms (73% vs. 55%). There was no significant difference in the site and length of the lesion treated. Majority of males had previous bypass grafting (63% vs. 38%); however, women with stented graft presented earlier than men. (68 months vs. 114 months). Equal rates of procedural success were seen between the 2 groups; however, women had higher rate of vascular complications (8% vs. 0%) than men. There was no significant difference in the 6 months, 1, 2 and 3 years rates of TLR, TVR, MI and cardiac death (Figure) between men and women. Both groups showed a time dependent attrition in the stent patency rates during the 3 year follow up.

CONCLUSIONS Although women had more unstable presentation and a higher rate of vascular complications, procedural success and long terms outcomes were similar between men and women undergoing VBT for refractory DES-ISR.



CRT-167

Impact Of Hemoglobin A1c On Long-term Outcomes Of Drug-eluting Stents And Bare Metal Stents Differently

Hideki Wada,[1] Katsumi Miyauchi,[2] Satoru Suwa,[1] Hiroyuki Daida[2]
[1]Juntendo University, Shizuoka hospital, Izunokuni, Shizuoka, Japan; [2]Juntendo University, Tokyo, Japan

Previous studies showed admission levels of hemoglobin A1c (HbA1c) correlate with long-term outcomes in patients with bare metal stents. It is uncertain that HbA1c is associated with an increased risk of cardiovascular events in patients undergoing DES.

METHODS AND RESULTS This study compared the impact of HbA1c on clinical outcomes of BMS and DES in a single-center prospective registry. This was an observational study of 3,492 consecutive patients who underwent PCI between 2000 and