Cardiovascular Disease: Epidemiology, continued

CONCLUSION: In our outpatient chronic heart failure clinic, diabetics received similar treatment compared to non-diabetics. Diabetics exhibit more frequent hospitalizations, a higher incidence of atrial fibrillation despite no difference in left atrial size, and an increased left ventricular mass index, despite similar pro-BNP levels and blood pressure.

CLINICAL IMPLICATIONS: Diabetics with chronic heart failure have higher hospitalization rates compared to non diabetics inspite of similar baseline therapy.

DISCLOSURE: Jun Chiong, None.

VACCINATION RATES IN INDIGENT RURAL PATIENTS IN SOUTH LOUISIANA: IMPACT OF A HEART FAILURE DISEASE MANAGEMENT PROGRAM

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PURPOSE: The 2001 & 2005 ACC/AHA Guidelines for Heart Failure (SHF) recommend vaccination (VAC) for influenza (FLU) and for pneumococcal pneumonia. Nationally, rates of VAC for FLU in elderly patients was 65.5% in 2003 and was 62.7% in 2004. For high risk adults, including SHF patients, rates over the same time-periods were low at 34.2% and 25.5% respectively. In fiscal year 2002, a quality improvement project regarding VAC for both FLU and pneumonia in SHF was undertaken. We report the 3 year results regarding VAC of SHF patients in an indigent rural SHF disease management clinic.

METHODS: Baseline VAC status was included into the database in 2002 at our SHF clinic at LJ Chabert Medical Center in Houma, Louisiana, one of 8 safety-net state hospitals. All SHF visits were monitored for VAC status by clinic nurses via the process of a checklist, documenting VAC status. Patients were then offered the VAC if not already completed, where appropriate and were then administered by the nurse at the same visit, when available. The outcome measured was the annual FLU VAC status and the 5-year pneumococcal VAC status.

RESULTS: The fiscal year rates of FLU VAC was 33% (n=98) in 2002, 36% (n=183) in 2003, 54% (n=237) in 2004, and 33% (n=92) in 2005. There was a shortage of available FLU VAC in 2005. For pneumonia VAC, the cumulative rate for each fiscal year was 9% (n=42) in 2003, 48% (n=174) in 2004, and 62% (n=62) in 2005. There were no differences by year regarding demograhics. Median annual income was $11,800.

CONCLUSION: VAC rates were equivalent or lesser than known US rates at program initiaton. At 3 year follow-up, yearly FLU rates and cumulative pneumonia rates continued to improve, though FLU rates dropped in 2005 due to FLU VAC shortage that year.

CLINICAL IMPLICATIONS: A simple process improvement VAC checklist helps facilitate SHF guidleine suggested preventative measures. Further study will focus on patients attitudes, as a distinct subset refused VAC at each visit.

DISCLOSURE: Lee Arcement, None.

INCIDENCE OF OBSTRUCTIVE CORONARY ARTERY DISEASE IN INTENSIVE CARE UNIT PATIENTS ADMITTED WITH CARDIAC AND NONCARDIAC DIAGNOSES WITH MODEST TROPONIN ELEVATION

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PURPOSE: Elevation of cardiac troponin I (TnI) is a common finding in the intensive care unit (ICU). While these elevations reflect myocardial necrosis, the correlation with significant obstructive coronary artery disease (CAD) in this patient population remains unclear. The purpose of this study is to describe the incidence and time to diagnostic evaluation for obstructive CAD in patients with modest TnI elevation (peak between 0.4–10 ng/dL) admitted to ICUs for both cardiac and non-cardiac causes.

METHODS: Retrospective analysis of patients admitted to adult ICUs with modest TnI elevation between July and December 2005.

RESULTS: 177/829 (21%) patients were identified with peak TnI between 0.4-10 ng/dL. 54/177 patients (31%) were admitted with a primary cardiac diagnosis (group 1) and 123/177 patients (69%) with a non-cardiac diagnosis (group 2). 46/54 of patients (85%) in group 1 as opposed to 17/123 (14%) in group 2 had work-up for CAD (p < 0.001). Obstructive CAD was 82% (38/46) in group 1 and 29% (5/17) in group 2 (P<0.001). In-hospital mortality was 11% and 34% in group 1 and group 2, respectively (p<0.01). The percentage of patients with work up for obstructive CAD within 24 hrs was 70% vs 35% in group 1 and group 2, respectively (p < 0.05).Comparison of different relevant variables between the 2 groups is shown in Table 1.

CONCLUSION: Though the incidence of obstructive CAD is higher in patients admitted with cardiac diagnoses and modest TnI elevation, patients with non-cardiac diagnoses and modest TnI elevation admitted to ICU have a higher mortality. The true incidence of obstructive CAD in this patient population remains unclear, largely because of lack of available accurate bedside techniques. Bedside stress myocardial contrast echocardiography can be broadly applied to all patients and may lead to an earlier diagnosis and treatment.

CLINICAL IMPLICATIONS: Modest TnI elevation in ICU patients with non-cardiac diagnosis has serious implications and should be taken seriously. Timely and proper diagnostic work for obstructive CAD should be done in this patient population as well.

DISCLOSURE: Ather Anis, None.

IS DIABETES A STRONGER PREDICTOR OF RECURRENT CARDIOVASCULAR EVENTS THAN THE ANGIOGRAPHIC SEVERITY OF CORONARY ARTERY DISEASE?

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PURPOSE: Both the presence of diabetes mellitus (DM) and the presence and severity of coronary artery disease (CAD) predict recurrent major adverse cardiovascular events (MACE). The purpose of our study was to examine the correlation between DM, coronary angiographic findings and the risk of MACE among patients with established CAD.

METHODS: We prospectively followed 347 males with CAD undergoing coronary angiography for 4 years. The combined endpoint was the occurence of MACE, including myocardial infarction, unstable angina, stroke, coronary revascularization and death. We used logistic regression and calculated odds ratios (OR) and the area under the receiver-operator characteristic curve (AU-ROC)for each logistic regression model to directly compare their predictive ability.

RESULTS: Univariate predictors of MACE included DM (OR=2.36; 95%CI=1.49-3.74;p<0.001), left ventricular ejection fraction (OR per 10% increase=0.77;95%CI=0.66-0.90;p=0.001), congestive heart failure (OR=2.33;95%CI=1.30-4.17;p=0.004), peripheral vascular disease (OR=2.10;95%CI=1.23-3.57;p=0.006) and serum creatinine (OR per mg/dL increase=1.32;95%CI=1.02-1.71;p=0.03). DM was the strongest predictor of MACE (AU-ROC=0.60). The number of coronary territories involved with hemodynamically significant CAD tended to predict MACE (OR per vessel involved=1.24;95%CI=0.99-1.55;p=0.05). DM remained the strongest predictor of MACE in multivariate models. The best model constructed with multiple angiography-related variables (number of vessels with significant CAD, history of previous CABG, need for CABG or percutaneous coronary intervention from findings during index angiography, and presence left main stenosis) had an AU-ROC of 0.58. This was inferior to the AU-ROC for the model containing DM alone (0.60).

CONCLUSION: DM is a stronger predictor of recurrent MACE than the angiographic severity of CAD. DM is associated with continuous exposure to a pro-atherogenic milieu and extracardiac atherosclerotic disease, explaining its strong ability to predict cardiovascular events beyond the angiographic presence or severity of CAD.

CLINICAL IMPLICATIONS: DM a much stronger risk factor for future cardiovascular events than coronary angiographic findings at any given time. Diabetics should be regarded as high-risk patients even when the coronary angiogram is normal or reveals mild abnormalities.

DISCLOSURE: Julio Chirinos, None.