**CLINICAL UTILITY OF AN OBSERVATION UNIT IN THE OUTCOME OF COCAINE-INDUCED CHEST PAIN**

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**Objectives:** The goal of this study was to determine the safety of a 12-hour protocol in an observation unit for ruling out myocardial infarction (MI) among cocaine users with chest pain and to identify predictors of major adverse cardiovascular events (MACE) or readmissions.

**Background:** Cocaine is the most common substance for drug-related emergency department (ED) visits and a majority of these patients have chest pain. Prior studies have shown that a patient with low to intermediate cardiac risk can be safely discharged after 12 hours of observation.

**Methods:** We conducted a retrospective review of patients with cocaine associated chest pain placed under observation on July 1, 2012 to July 31, 2017. Three sets of electrocardiograms (ECG) and cardiac biomarkers were done every 4 hours from the time of initial evaluation. We followed up these patients for death, MACE and readmission within 30 days and 6 months of discharge.

**Results:** A total of 115 patients who had cocaine associated chest pain were included in this study. None of the patients died within 6 months from the time of discharge. All of the patients had troponin levels <0.4 ng/mL. One patient had an ischemic ECG consistent with Wellen’s sign. This patient was transferred for cardiac catheterization which did not reveal any significant stenosis. Out of the 20 patients who underwent cardiac stress testing, 4 patients had fixed perfusion defects and 1 patient had a moderate reversible perfusion defect but that patient refused further treatment. Following regression analysis, patients without prior CAD showed a reduced risk of readmission within 30 days (p 0.012) and within 6 months (p 0.002). Other factors that did not show any significance in predicting death, MACE or readmission included gender, age, body mass index, hypertension, diabetes, hyperlipidemia, smoking and family history.

**Conclusions:** Patients with cocaine associated chest pain who do not have evidence of ischemia over a 12-hour period have a very low risk of death, MI or MACE within 6 months of discharge. Further testing may be unnecessary if the serial cardiac biomarkers and ECGs are normal. Patients who were likely to be readmitted for chest pain already had prior CAD.