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Acute Coronary Syndromes

THE EFFECTS OF HURRICANE KATRINA ON ACUTE MYOCARDIAL INFARCTION FIVE YEARS AFTER THE STORM

ACC Oral Contributions

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Session Title: What Impacts Outcomes in ACS? From Genes to Plaque Morphology to Environment.

Abstract Category: 6. Acute Coronary Syndromes: Basic

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Background: We have sought to compare the incidence of acute myocardial infarction (AMI) before and after Hurricane Katrina along with contributing factors.

Methods: This is a single-center, retrospective study conducted at Tulane Medical Center involving patients admitted for AMI in the two years before Katrina and in the five years afterward. Using pre-specified demographic and clinical data, we compared the pre-Katrina and post-Katrina groups.

Results: During the 5-year post-Katrina group, there were 849 admissions for AMI out of a total census of 38,521 patients (2.2%) compared to 150 admissions out of a census of 21,079 (0.7%) in the 2-year pre-Katrina group ($p < 0.0001$). The post-Katrina group had a higher prevalence of known coronary artery disease (48.5% vs. 30.7%, $p < 0.001$), prior coronary artery bypass grafts (14.1% vs. 9.3%, $p < 0.05$), hyperlipidemia (53.8% vs. 45.0%, $p < 0.01$), psychiatric comorbidities (11.0% vs. 6.7%, $p < 0.05$), smoking (56.4% vs. 39.3%, $p < 0.0005$), and substance abuse (15.9% vs. 6.7%, $p < 0.005$). While the post-Katrina group had more often been prescribed aspirin (42.4% vs. 31.3%, $p < 0.05$), ACE inhibitors or angiotensin receptor blockers (47.4% vs. 36.0%, $p < 0.05$), and statins (44.0% vs. 28.0%, $p < 0.005$), medication adherence was less (53.3% vs. 70.7%, $p < 0.0001$). The post-Katrina group was also more likely to be unemployed (17.9% vs. 2.0%, $p < 0.0001$), uninsured (11.5% vs. 6.0%, $p < 0.0001$), and reside in New Orleans (88.1% vs. 70.0%, $p < 0.0001$). There were no significant differences between the two groups in terms of age, sex, ethnicity, diabetes mellitus, and hypertension.

Conclusion: Hurricane Katrina placed an arduous physical, psychological, and social burden on the residents of New Orleans. After five years of study at our institution, we find a three-fold increased incidence of AMI along with increased rates of coronary artery disease, hyperlipidemia, psychiatric comorbidities, smoking, substance abuse, medication non-adherence, unemployment, and lack of medical insurance. The higher prevalence of these clinical and psychosocial risk factors suggests that this profound natural disaster has had a long-standing impact on cardiovascular health in our community.