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to evaluate the concordance between vFFR-confirmed functional significance and revascularization strategy as proposed by the heart team.

METHODS Consecutive patients from 6 institutions were screened for eligibility and 3-vessel vFFR was computed. Discordance between vFFR-confirmed lesion significance and revascularization was assessed. Rates of major adverse cardiac events, defined as cardiac death, myocardial infarction, and clinically driven revascularization were reported.

RESULTS Of a total of 1,003 patients screened for eligibility, 416 patients (age 65.6 ± 10.6 years, 71.2% male, 53% stable angina) were included. The most important reason for screening failure was insufficient quality of the angiogram (43%). Following heart team consensus, 72.8% of the patients underwent percutaneous coronary intervention, 20.7% coronary artery bypass grafting, and in 6.5% a conservative treatment was advocated. vFFR screening of the entire coronary tree indicated discordance between vFFR-confirmed lesion significance and revascularization in 124 of 416 patients (29.8%) corresponding to 149 vessels; 46 vessels (30.9%) were reclassified as significant whereas the remaining 103 vessels (69.1%) as nonsignificant by vFFR. Over a median of 962 days, the cumulative incidence of major adverse cardiac events was 29.7% vs. 18.5% in discordant vs. concordant patients (p = 0.031).

CONCLUSION vFFR computation is feasible in around 40% of the patients referred for heart team discussion, a limitation that is mostly based on insufficient quality of the angiogram. Three-vessel vFFR screening indicated discordance between vFFR-confirmed lesion significance and revascularization in 29.8% of the patients and has the potential to improve patient outcome.

CATEGORIES IMAGING: Physiologic Lesion Assessment

Covid-19 and Societal Aspects of Interventional Cardiology

TCT CONNECT-211 ST-Segment Elevation Is Associated With Worse Outcomes in Patients Hospitalized With COVID-19: Large System-Wide Analysis of Clinical Characteristic and Outcomes

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BACKGROUND Coronavirus disease-2019 (COVID-19) infection-related myocardial injury is seen in approximately 20% of hospitalized patients and ST-segment elevation myocardial infarction may be the presenting clinical manifestation. Recently published data suggest that the STE may be due acute coronary occlusion or other etiologies such as myopericarditis. We assessed the clinical characteristics, electrocardiographic patterns, incidence, management, and outcomes of COVID-19 patients with STE.

METHODS We analyzed 23,406 electrocardiograms (n = 10,018) admitted to 13 New York City area hospitals between March 1 and April 30, 2020.

RESULTS After manual adjudication, 31 (0.5%) had focal STE, 22 (0.2%) had diffuse STE, and 9,945 did not have STE. Baseline clinical characteristics were similar among the 3 groups, albeit there was a higher percentage of patients with low ejection fraction in the diffuse STE group. Cardiac catheterization was performed on 10 patients. Three patients did not have identifiable culprit lesions. Patients with focal STE were more likely to require inotropes and die during index hospitalization. Kaplan-Meier estimated overall survival rates were 31%, 33%, and 6% in patients without STE, focal, and diffuse STE, respectively (p < 0.0001) (Figure). By stepwise logistic regression analysis, focal STE was the strongest predictor of death (odds ratio [OR]:2.9; 95% confidence interval [CI]: 3.8 to 13.0; p < 0.001) followed by age > 65 years (OR: 3.5; 95% CI: 3.1 to 3.9; p < 0.001) and diffuse STE (OR: 2.9; 95% CI: 1.1 to 7.2; p < 0.001). Female sex was associated with a decreased risk (OR: 0.72; 95% CI: 0.65 to 0.79; p < 0.001).

CONCLUSION In this large retrospective analysis of 10,018 COVID-19 patients, we observed that STE as a manifestation of cardiovascular involvement with COVID-19 infections correlated with worse outcomes. Additionally, 1) a very small percentage (0.7%) presented with STE; 2) 70% had focal STE and 30% had diffuse STE; 3) a minority underwent coronary angiography; 4) in-hospital mortality rates were more so for those with focal STE (63% vs. 46%); and 5) focal STE was the strongest predictor of in-hospital mortality and female sex was a predictor of survival.

CATEGORIES OTHER: COVID-19

TCT CONNECT-212 The Effect of Influenza Vaccination on Cardiovascular Outcomes: An Analysis on the National Inpatient Sample Database

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BACKGROUND Influenza vaccination has been associated with a decreased risk of myocardial infarction (MI). The purpose of this study was to further investigate the effect of influenza vaccine on other cardiovascular outcomes including death during hospitalization, transient ischemic attacks, cardiac arrest, stroke, MI, and heart failure.

METHODS This retrospective cohort study compared cardiovascular outcomes between those who received influenza vaccination and those who did not during their hospital stay among adults age 18 years and older in the United States. The eligible patients were extracted for analysis from the 2014 and 2015 National Inpatient Sample Database. Vaccination status was determined using the International Classification of Diseases-9th version (ICD-9) code for vaccination “V04.81” (need for prophylactic vaccination and inoculation against influenza). Generalized linear models, with a link log and family Poisson was used to assess the adjusted prevalence ratios (PRs) between cardiovascular outcomes and selected cofactors. P values less than 5% were considered statistically significant.

RESULTS The study included 29,753,764 adult patients. Of the 5,950,751 hospitalizations, 85,993 (1.45%) hospitalizations reported patients receiving influenza vaccination during their hospital stay. After adjusting for patients age, sex, race, location, income, insurance, as well as diabetes, hypertension, hyperlipidemia, and smoking status; vaccinated patients were less likely to experience MI (PR: 0.86, p < 0.001), transient ischemic attacks (PR: 0.89, p < 0.001), cardiac arrest (PR: 0.69, p < 0.001) and death (PR: 0.64, p < 0.001). The risk of strokes was slightly higher in vaccinated patients (PR: 1.09, p = 0.001). Also, the risk of a heart failure was elevated for vaccinated patients (PR: 1.01, p = 0.64), this association was not statistically significant.

CONCLUSION There was a decrease in the risk of myocardial infarction, cardiac arrest, death during hospitalization, and transient ischemic attacks observed for hospitalizations in patients with influenza vaccination compared to patients who did not receive vaccination. Our data further support the protective effects of influenza vaccination on cardiovascular outcomes beyond MI.

CATEGORIES CORONARY: Acute Coronary Syndromes

TCT CONNECT-213 Clinical Characteristics and Outcomes of Patients With COVID-19 and STEMI Treated With Fibrinolytic Therapy

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