Acute and Stable Ischemic Heart Disease

ACUTE MYOCARDIAL INFARCTION IN PATIENTS ON CHRONIC INNATE IMMUNOSUPPRESSION THERAPY

Poster Contributions
Poster Hall, Hall C
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Session Title: Cardiac Arrest, Diabetes, and Other High Risk Features of Patients With Acute Coronary Syndrome
Abstract Category: 2. Acute and Stable Ischemic Heart Disease: Clinical
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Background: Altered inflammatory cascades in heart disease have been well established, however, the benefit of immunomodulation in setting of acute myocardial infarction (AMI) has not been determined. There is increasing clinical and experimental evidence suggesting that suppression of the innate immune system in the setting of AMI can reduce infarct size and preserve myocardial integrity. In this study, we compared the outcomes of AMI in patients receiving chronic immunosuppressive therapy with a demographically matched control group not taking any immunosuppressive agents.

Methods: Retrospective chart review of patients who experienced left anterior descending (LAD) AMI at the time of being treated with immunosuppressive agents for at least 1 year. The experimental group includes patients treated with anti tumor necrosis factor-α agents, prednisone, methotrexate, plaquenil, and/or sulfasalazine at time of AMI (N = 19). This was compared to a demographically matched control group who experienced an LAD AMI during the same time period, but were not taking any immunosuppressive agents (N = 20). Target vessel revascularization, hospital readmission, length of hospital stay, as well as changes to left ventricular ejection fraction (LVEF) after at least 1 year follow up will be compared.

Results: LVEF did not significantly change in the experimental group at the time of follow up (50.9 vs 52.35, p = 0.67). In contrast, the control group showed a significant 8.3% decline in LVEF on follow up (56.15 vs 51.5, p = 0.0366). There was no statistical difference in length of hospital stay, readmissions, or repeat target vessel revascularization between groups.

Conclusions: Our study shows that chronic innate immunosuppression preserves LVEF after at least 1 year follow up in the setting of LAD AMI. This suggests a role for targeting specific cytokines involved in ischemia/reperfusion injury and in developing a guided immunosuppressive strategy towards the treatment of AMI.