Feasibility and Safety of G-CSF Treatment in Patients with AMI

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Background: G-CSF administration has been recently reported to prevent left ventricular (LV) remodeling and restoration of cardiac function in patients with AMI. We assessed the feasibility and safety of G-CSF treatment for patients with AMI.

Methods: Thirty-four patients with AMI were included in the study. Patients were randomly assigned to the G-CSF (n = 17) or placebo (n = 17) group. G-CSF treatment was administered within 12 hours after AMI. LV function was assessed by echocardiography at baseline and 3, 6, and 12 months after AMI.

Results: LV ejection fraction (LVEF) significantly improved in the G-CSF group (p < 0.05) compared to the placebo group. There were no significant differences in LV dimensions, cardiac output, or heart rate between the two groups. The rate of adverse events was similar between the two groups. G-CSF treatment was well tolerated, and there were no major complications.

Conclusion: G-CSF treatment is feasible and safe for patients with AMI. However, further studies are needed to confirm its efficacy in reducing LV remodeling and improving cardiac function.

Impact of Arterial Remodeling on Target and Non-Target Lesion Reresection Following Bare Metal Stent Implantation in Patients with Acute Coronary Syndrome: An Intravascular Ultrasound Study


Background: Previous studies have reported that arterial remodeling may affect the long-term patency of coronary stents. The purpose of this study was to investigate the impact of arterial remodeling on target and non-target lesion revascularization following bare metal stent implantation.

Methods: A total of 158 patients with ACS were enrolled. Intravascular ultrasound (IVUS) imaging was performed at baseline and at 6 months after stent implantation. The IVUS images were analyzed to determine the extent of arterial remodeling.

Results: The rate of target lesion revascularization (TLR) was significantly lower in the group with less arterial remodeling (p < 0.05). The rate of non-target lesion revascularization (NLR) was also significantly lower in the group with less arterial remodeling (p < 0.05). The rate of in-stent restenosis was not significantly different between the two groups.

Conclusion: Arterial remodeling may affect the long-term patency of coronary stents. Minimizing arterial remodeling may reduce the need for lesion revascularization.

Bleeding and Blood Transfusion Rates Are Higher Among Acute Coronary Syndrome Patients in the United States Than in Other Countries

Ssu-Tai Y. Hsiau, Andrei C. Glancy, Kevin A. O'Callaghan, et al.

Background: The incidence of acute coronary syndrome (ACS) and the use of blood transfusion have increased in recent years. The purpose of this study was to compare the incidence of ACS and blood transfusion rates in the United States with those in other countries.

Methods: A retrospective analysis of ACS incidence and blood transfusion rates in the United States and other countries was performed. ACS incidence was determined from national and regional registries, and blood transfusion rates were obtained from hospital databases.

Results: The incidence of ACS in the United States was significantly higher than in other countries (p < 0.05). The rate of blood transfusion was also significantly higher in the United States (p < 0.05).

Conclusion: The incidence of ACS and blood transfusion rates are higher in the United States than in other countries. Further research is needed to understand the reasons for these differences and to develop strategies to reduce the incidence of ACS and blood transfusions.

Clinical Science

Intact Size Quantified by Contrast-Enhanced Magnetic Resonance Imaging Predicts Ventricular Remodeling Following an ST-Segment Elevation Myocardial Infarction

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Background: Contrast-enhanced magnetic resonance imaging (CE-MRI) can provide detailed images of the myocardium and blood vessels. The purpose of this study was to evaluate the relationship between intact size and ventricular remodeling following an ST-segment elevation myocardial infarction (STEMI).

Methods: A total of 50 patients with STEMI were enrolled. Intact size was measured using CE-MRI at baseline and at 6 months after infarction. Ventricular remodeling was assessed using LV mass and LV ejection fraction (LVEF) at baseline and at 6 months after infarction.

Results: Intact size was significantly smaller in patients with ventricular remodeling compared to those without remodeling (p < 0.05). The correlation between intact size and LVEF was significant (r = -0.5, p < 0.05).

Conclusion: Intact size quantified by CE-MRI can predict ventricular remodeling following an STEMI. Further studies are needed to confirm these findings and to develop strategies to improve outcomes after STEMI.

Shedding Rate of Stent ("Ballooning to Door") Time After Primary Percutaneous Coronary Intervention for Acute Myocardial Infarction: A Report from the 2002–2003 New Jersey MIDAS Database

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Background: The shedding rate of stents has been shown to be associated with poor clinical outcomes. The purpose of this study was to evaluate the shedding rate of stents after primary percutaneous coronary intervention (PCI) for acute myocardial infarction (AMI).

Methods: A retrospective analysis of PCI data from the New Jersey MIDAS database was performed. The shedding rate of stents was defined as the percentage of patients who experienced stent shedding after PCI. The shedding rate was compared between patients with and without AMI.

Results: The shedding rate of stents was significantly higher in patients with AMI (p < 0.05). The rate of stent shedding was also higher in patients with STEMI compared to those with NSTEMI (p < 0.05).

Conclusion: The shedding rate of stents is significantly higher in patients with AMI. Further studies are needed to determine the underlying mechanisms and to develop strategies to reduce stent shedding.