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Transradial Intervention versus Transfemoral Intervention accompanied with Vascular Closure Device in Acute Myocardial Infarction

Background: Transradial intervention (TRI) and transfemoral intervention (TFI) with vascular closure device (VCD) can reduce access site bleeding complications. However, studies that directly compare their safety and efficacy in acute myocardial infarction have been rarely performed. Objectives: To determine the impact of TFI with VCD compared to TRI in acute myocardial infarction. Methods: A total of 257 patients who were diagnosed as acute myocardial infarction with coronary interventions from February 2011 to July 2013 were analyzed. Demographics, procedural characteristics, and clinical outcomes including major and minor bleeding complications were analyzed and compared between TFI with VCD and TRI. Results: Of the 257 patients, 116 underwent TFI with VCD whereas 143 underwent TRI. In baseline characteristics, hypercholesterolemia was significantly lower and cardiogenic shock was significantly higher in the TFI with VCD group compared to TRI group. In clinical and bleeding outcomes, the incidence of major and minor bleeding complications was significantly higher in the TFI with VCD group (TFI with VCD vs. TRI, 14.6% vs. 2.0%, $p=0.001$). However, major adverse cardiac events (MACEs) at 30 days did not show any difference between the two groups (TFI with VCD vs. TRI, 12.0% vs. 7.6%, $p = 0.291$). Conclusions: Our results suggest that TFI accompanied with VCD has similar clinical outcome but still is associated with a substantial increase in major and minor bleeding complications compared to TRI. Further study is necessary to evaluate the incidence of major bleeding and vascular complications between TFI with VCD and TRI