Revascularization in Patients With Diabetes and Multivessel Coronary Artery Disease: A Population Based Evaluation of Outcomes

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In the setting of a randomized controlled trial (FREEDOM), stable diabetic patients with multivessel coronary artery disease (MV-CAD), revascularization with coronary artery bypass grafting (CABG) was a superior approach to percutaneous coronary intervention (PCI). We aimed to determine the applicability of these findings in a broad population with a high predominance of recent acute coronary syndrome (ACS) patients.

Provincial wide registries were linked to identify eligible patients and determine the primary endpoint. Diabetic patients with MV-CAD without restriction on kidney or heart function undergoing revascularization between 2007 and 2014 were eligible. The primary endpoint (MACE) was a composite of death, myocardial infarction (MI) and stroke, adjusted for differences in baseline risk factors. There were n= 4937 procedures (PCI= 60%). PCI patients were older, more likely to be female, with higher rates of pulmonary and liver diseases (p<0.001). CABG patients had higher rates of proximal left anterior disease (p<0.001). The indication for revascularization was an ACS in 63%, but higher in PCI (68%) than CABG (54%) patients (p<0.001). The procedures were emergent or urgent in 59% of CABG and 70% of PCI patients (p<0.001). The CABG vs. PCI outcomes of MACE at 30-days [early] (A), MACE post 30 days to 12 months [short-term] (B) and components of MACE are shown in Figure 1. The benefit of CABG over PCI was significantly greater in ACS patients (p\text{interaction}= 0.005) up to 30-days; while the benefit of CABG over PCI post 30-days did not differ between ACS vs. non-ACS patients (p\text{interaction}= 0.791).

A real world, population-based evaluation corroborates the benefit of CABG over PCI in patients with diabetes and MV-CAD, both early and in the short-term. ACS patients experience an even greater benefit from CABG over PCI within the first 30 days. Our results require further evaluation and suggest a paradigm shift in the management of ACS patients with diabetes and MV-CAD.
Disclosure: