To the Editor:

Elgendy et al. performed a meta-analysis of randomized trials to evaluate the cardiovascular outcomes with routine use of intravenous ultrasound (IVUS) during percutaneous coronary intervention (PCI) using drug-eluting stents (DES). The authors concluded that IVUS-guided PCI can reduce the risk of major adverse cardiac events compared with angiography-guided PCI, primarily by reducing the risk of target vessel revascularization. Reduction in stent thrombosis was also observed. Most of the patient population had diffuse coronary lesions (>30 mm).

Unfortunately, the conclusion of this meta-analysis cannot be generalized to guide the current practice. The authors only included the trials that investigated the role of IVUS with DES, based on the assumption that the era of bare-metal stents (BMS) has came to an end. Although this might be true to some degree, however, it is not reflective of the practice in many of the developing countries that still use BMS on a moderate to large scale secondary to the cost burden of DES. Even in developed countries, BMS did not vanish yet. BMS were found to provide similar rates of target-lesion revascularization at 2 years compared with DES when implanted in nondiabetic myocardial infarction patients with large reference vessel diameter and a short culprit lesion.  

A subanalysis on the multicenter Evaluation of Drug Eluting Stents and Ischemic Events (EVENT) registry concluded that the selective use of DES is a better cost-effective approach compared with unrestricted DES use. Furthermore, it might be more reasonable to use BMS in patients with questionable compliance or concern on prolonged dual antiplatelet therapy, such as patients who might require noncardiac surgeries in the future.

In a meta-analysis of randomized trials, IVUS-guided PCI using BMS showed reduction in major adverse cardiac events, however, without reduction in myocardial infarction and death. Also, the incidence of stent thrombosis in BMS compared with DES is still debatable. The difference in the safety and efficacy profiles of BMS compared with DES makes it difficult to expect whether the results of meta-analysis by Elgendy et al. would apply to routine IVUS-guided PCI using BMS. A meta-analysis that also includes the trials that investigated BMS could provide a more comprehensive evaluation of routine IVUS-guided PCI.

Based on this limitation, we encourage the routine use of IVUS-guided PCI only in patients with diffuse coronary lesions using DES, until further results on its role in PCI using BMS are available.

Disclosures

None.

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Circ Cardiovasc Interv. 2016;9:
doi: 10.1161/CIRCINTERVENTIONS.116.003892

Circulation: Cardiovascular Interventions is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 1941-7640. Online ISSN: 1941-7632

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circinterventions.ahajournals.org/content/9/8/e003892

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