cularization and Stents in Acute Myocardial Infarction] trial) (4), and, hopefully, this number will further decrease with the increasing emphasis on pan-arterial revascularization.

We agree that, given its infrequent occurrence, it will be difficult to accrue meaningful data on best treatments for STEMI from adequately powered randomized trials. Absent such data, we empirically recommend potent antiplatelet and antithrombotic agents (in patients at low risk of bleeding) and liberal use of intragraft vasodilators to prevent and treat no-reflow. Either proximal or distal embolic protection devices should also routinely be used, with consideration of aspiration or thrombectomy for further debulking. Drug-eluting stents have now been shown to be safe in SVGs and might decrease restenosis (5). Preferential intervention of the native coronary arterial circulation (rather than the occluded SVG) should always be considered as an alternative route to reperfusing the myocardium and, if possible, will result in higher acute success and late patency rates (6).

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Percutaneous Coronary Interventions Following Coronary Artery Bypass Graft

In-Hospital Mortality and Long-Term Follow-Up

We have read with great interest the paper from Brilakis et al. (1) concerning percutaneous coronary interventions (PCI) following coronary artery bypass graft (CABG). Patients with a previous CABG constitute an extremely high-risk group with an increased frequency of comorbidities and multivessel disease. Brilakis et al. notice very well that patients undergoing bypass graft PCI have higher-risk clinical characteristics. Our attention was especially attracted to the very important and didactic conclusion that compared with native coronary PCI, bypass graft PCI is independently associated with higher in-hospital mortality, which relates to our research that soon will be published by Xanthopoulou et al. (2). Interestingly, the 2 papers supplement each other, as at this retrospective analysis of 190 patients, we found that post-CABG patients, undergoing graft compared with native vessel PCI have worse long-term clinical outcome (follow-up with a median duration of 28 months) in terms of major adverse cardiac events, death, and repeat revascularization. Brilakis et al. also found that saphenous vein graft PCI becomes more prevalent with longer time intervals from CABG, a finding in accordance with our results.

By contrast, although the efficacy of embolic protection devices is proven, the investigators do not mention the frequency of their use in the saphenous vein graft PCI population (3). Additionally, it would be important to assess the amount of myocardium in jeopardy following PCI in the 2 groups. According to our opinion, it would be helpful to incorporate those parameters in the multivariate analysis, as they could have influenced the clinical outcome of those patients (4).

Disease progression to the native vessels (NV) or failure of grafts due to similar mechanisms with NV atherosclerosis usually lead to repeat coronary revascularizations (5). Furthermore, the NV is recommended as the ideal target for PCI when diseased grafts are >3 years old (6).

In conclusion, it is clear that regardless of the selection criteria for the PCI target vessel, patients subjected to graft PCI have worse in-hospital mortality than patients who had NV-PCI, and these data could be enhanced with our results adding details about long-term clinical outcome. Physicians should prefer a NV if PCI is to be performed in a patient following CABG, if the anatomy of the vessels of the heart is suitable for it.

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Reply

We greatly appreciate the interest in our paper (1) and the astute comments by Drs. Tsigkas, Xanthopoulou, and Alexopoulos who highlight the use of embolic protection devices (EPDs) in saphenous vein graft (SVG) percutaneous coronary interventions (PCI) and the importance of the amount of myocardium in jeopardy. While we agree that the amount of jeopardized myocardium is an important predictor of outcome, the information necessary to calculate the amount of myocardium in jeopardy during PCI is not available in the CathPCI Registry. EPDs were used in 19.64% of SVG PCIs during the study period. EPD use was not associated with in-hospital mortality in univariable analysis (odds ratio: 0.988, 95% confidence interval: 0.870 to 1.122) or multivariable analysis (odds ratio: 0.935, 95% confidence interval: 0.813 to 1.075). Longer-term follow-up is likely needed to detect an impact from EPD use on clinical outcomes.

EPDs have been proved to reduce the incidence of post-SVG PCI myocardial infarction, and have a Class I indication in the American College of Cardiology/American Heart Association PCI guidelines. Yet, EPDs remain underutilized both in the United States and in Europe (2), due to device complexity, difficulties assessing the embolization risk of each SVG lesion, unavailability of a universally applicable EPD, and lack of reimbursement (3,4).

The similarity of the findings from the population of Xanthopoulou et al. (5) and from NCDR (1) strengthen the conclusion that native coronary artery PCI is preferable to SVG PCI in prior coronary artery bypass graft patients, if technically feasible. Given the rapid advances in complex PCI techniques, especially chronic total occlusion PCI (6,7), native coronary artery interventions are likely to be increasingly utilized in the future in patients presenting with SVG failure.

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