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LETTERS TO THE EDITOR

Regarding Comparison of Percutaneous Coronary Intervention With Bare-Metal and Drug-Eluting Stents for Cardiac Allograft Vasculopathy

Problems With Listing Patients Receiving Clopidogrel for Re-Transplantation

I read with interest the article entitled "Comparison of Percutaneous Coronary Intervention With Bare-Metal and Drug-Eluting Stents for Cardiac Allograft Vasculopathy" (1). This is an interesting study showing a lower in-stent restenosis rate of patients receiving drug-eluting stents (DES) for allograft vasculopathy. There are 2 major points that need clarification. The authors did not report any statistical analysis in regards to important end points such as death, myocardial infarction, or target vessel revascularization in each group. We have to assume that these very important end points, including re-transplantation, were similar between the groups. Death and re-transplantation occurred in 34% of the entire cohort with follow-up of <1 year. This suggests poor prognosis of patients with significant allograft vasculopathy, regardless of stent types used. This is an important observation that needs to be emphasized. The second important point concerns a major dilemma that exists between interventional cardiologists and transplant surgeons regarding duration of clopidogrel therapy after coronary intervention for allograft vasculopathy. In our and many centers, patients receiving clopidogrel therapy would not be listed for re-transplantation due to theoretical risk for bleeding during cardiac transplantation. Consequently, surgeons are proned to early discontinuation of clopidogrel therapy in patients treated with DES, putting them at risk for stent thrombosis. Therefore, it is very important to discuss the choice of stent and duration of clopidogrel therapy with surgeons for each individual patient before coronary intervention in the setting of allograft vasculopathy. In patients who are not candidates for re-transplantation, the use of a DES with prolonged dual antiplatelet therapy is probably the best option. However, for younger patients who are candidates for re-transplantation, the use of DES without consultation with surgeons can lead to early discontinuation of dual antiplatelet therapy or exclusion from retransplantation. It is important to note that clopidogrel does not increase mortality during coronary bypass surgery (2,3). There are no data available evaluating the risk of bleeding or death in patients receiving clopidogrel therapy while undergoing cardiac transplantation.

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Reply

We have read with interest the thoughtful response from Dr. Movahed to our recent article entitled "Comparison of Percutaneous Coronary Intervention With Bare-Metal and Drug-Eluting Stents for Cardiac Allograft Vasculopathy" (1) and appreciate the opportunity to address the points raised in the letter.

Our study indicates an advantage with the use of drug-eluting stents (DES) compared with bare-metal stents (BMS) in terms of late lumen loss and rates of in-stent restenosis (ISR). More recent data support low rates of ISR when patients undergo percutaneous coronary intervention (PCI) with DES for coronary artery vasculopathy (CAV) (2). Similarly, a study from Poland reported that the use of DES was associated with a lower rate of ISR and longer time of freedom from ISR (3). Whereas other clinical end points were not reported for each group in our study, only 21% of all patients underwent target vessel revascularization, indicating that PCI is a viable treatment option for patients with CAV. Although our study reports that 13% of the cohort patients underwent repeat orthotopic heart transplantation (OHT) and 22% died, the mortality rate was measured over the entire follow-up period. The 22% mortality rate also included some patients who had undergone repeat OHT, producing a lower combined rate of death and repeat OHT. Prospective randomized trials comparing DES with BMS for CAV patients are needed to better ascertain clinical and angiographic outcomes with these modalities.

There is uncertainty regarding clopidogrel therapy in patients who are relisted for OHT and who have undergone PCI with DES within 12 months. Premature discontinuation of dual antiplatelet therapy after PCI with DES in patients who are relisted for OHT might increase the risk of stent thrombosis. Although the risk of

bleeding might be increased if OHT is performed while patients continue clopidogrel, our transplant surgeons have performed OHT on patients who continue clopidogrel and feel it is an acceptable risk to operate on such patients, because the consequences of stent thrombosis can be catastrophic. The case-fatality rate of DES thrombosis is 45% (4). Studies examining outcomes of patients receiving clopidogrel therapy undergoing OHT would determine the true bleeding risk of patients who undergo OHT with clopidogrel, the results of which would help clarify the optimal antiplatelet therapy in patients with DES who require repeat OHT.

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