Balloon test occlusion, device selection, and extracorporeal membrane oxygenation in the transcatheter closure of coronary artery fistula

To the Editor,

We read with a great interest the paper by Zoghi et al. (1) entitled "Coil embolization of iatrogenic coronary-pulmonary arterial fistula after heart transplantation" published in the July issue of the Anatol J Cardiol 2015; 15: 587-8. They presented a successful transcatheter coil embolization of iatrogenic coronary-pulmonary fistula after heart transplantation in a 20-year-old male. We congratulate the authors for the successful intervention and clinical management of the case. However, we have a few technical comments.

Our major concern is that immediately after release of the coil in the coronary artery, some residual flow is expected, which might potentially mask the evaluation of blood flow in the small right coronary artery efferents regard with ischemia. Therefore, we think that the transient balloon test occlusion of the fistula before releasing the device should be performed in such cases (2).

The Amplatzer vascular plug (St. Jude Medical, Austin, TX) device as user-friendly and is attached to a flexible delivery cable that allows us to deliver the device through a smaller delivery catheter. In addition, a single plug is usually enough for the closure of the fistula, and this makes the vascular plug advantageous compared with multiple coil usage, which may result in increased fluoroscopy time, more contrast volume, and higher embolization risk because of high flow in arterial vessels (3, 4).

Recently, the use of extracorporeal membrane oxygenation (ECMO) in elective high-risk complex percutaneous coronary intervention has been reported as an alternative method for hemodynamic support (5). In our opinion, it would be more helpful to be prepared for ECMO in heart-transplanted patients with a low systolic ejection fraction and requiring pacemaker support, as in the patient presented by Zoghi et al. (1).

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Author`s Reply

To the Editor,

We would like to thank the authors for their interest in our paper and their comments regarding our case report entitled "Coil embolization of iatrogenic coronary-pulmonary arterial fistula after heart transplantation" published in Anatol J Cardiol 2015; 15: 587-8 (1).

The selection of the technique and devices depends on anatomic features and the characteristics of coronary artery fistulas (CAF) such as multiple fistula drainage sites and vessel tortuosity (2). As the authors mentioned, the balloon test occlusion might be performed in selected patients with a small right coronary artery (RCA) (3). However, RCA in our case was > 2 mm in size.

Amplatzer vascular plugs are ideally recommended in extra-cardiac medium to large vessels with high flow and also in closing intracardiac defects including CAF in an off-label fashion (4). Despite the advantages of being safe and cost-effective, the Amplatzer vascular plug was not used in our case on the basis of these reasons. Additionally, one of the indications for the preference of graft stents is coronary fistula sealing following coil embolization, as seen in our case (5).

Hemodynamic extracorporeal membrane oxygenation (ECMO) support is recommended in patients with low systolic ejection fraction undergoing high-risk cardiovascular surgery. However, our patient had normal left and right systolic ejection fractions and underwent low-risk percutaneous cardiovascular intervention. This is the reason why the ECMO support was not used in our patient (6).

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Duration after coronary artery bypass graft surgery and saphenous vein graft disease

To the Editor,

We read the article with great interest by Kundi et al. (1), which was recently published online in Anatol J Cardiol 2015 May 5. The authors reported that the platelet-to-lymphocyte ratio (PLR) was found to be an independent predictor of saphenous vein graft disease (SVGD) in patients with stable angina pectoris. Kundi et al. (1) identified the significance of PLR in patients with stable angina after coronary artery bypass graft (CABG) surgery. This study has some major limitations, and the authors mention this situation in the text. However, there are no data about some other important predictors of SVGD. Because of some major flaws in the design of the study, we would like to provide a critique on the findings of the present article.

It is well known that SVGD is not uncommon and increases with time (2). In the present study by Kundi et al. (1), there are no data about the time of performing CABG surgery. Time is one of the most important predictors of SVGD after CABG surgery. The incidence of SVGD is approximately less than 20% one year after CABG surgery (2, 3). However, after ten years of CABG surgery, only approximately half of the saphenous vein grafts are patent, and only a small proportion of patients are free from angiographic arteriosclerotic lesions (4, 5). In this sense, longer time after CABG surgery may be the reason of SVGD independently. Hence, to divide the study population as SVGD positive or negative and to indicate PLR as a predictor of SVGD, the duration after CABG surgery should be taken into consideration. The authors should state the duration after CABG surgery for each group and include it in the statistical analysis.

In conclusion, PLR may play a role in saphenous vein graft failure. However, SVGD increases with time. To define a new predictor for SVGD, the duration after CABG surgery should be taken into consideration.

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Author`s Reply

To the Editor,

We appreciate the comments of the authors on our article entitled as "Association between platelet-to-lymphocyte ratio and saphenous vein graft disease in patients with stable angina pectoris" published in Anatol J Cardiol 2015 May 5 (1).

The causes of saphenous vein graft failure differ according to the time period after surgery. Thrombosis is the dominant factor in graft failure in the first month after coronary artery bypass graft (CABG), intimal hyperplasia between 1 and 12 months, and atherosclerosis is the main pathogenic insult to venous graft failure 12 months after surgery (2). Therefore, as we mentioned in the discussion section of our paper, we included patients who had CABG surgery >1 year ago to minimize graft failure factors related to the surgery itself.

We believe that further prospective studies would better clarify the correlation of the platelet-to-lymphocyte ratio with the duration between CABG surgery and saphenous vein graft disease.

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