of choice for reconstruction of the coronary artery bed after resection of a CAA.

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References

1. Ucak A, Inangil G, Selcuk A, Temizkan V. Different surgical approaches in the coronary artery aneurysms. *J Thorac Cardiovasc Surg.* 2014;147:1434-50.
2. Li D, Wu Q, Sun L, Song Y, Wang W, Pan S, et al. Surgical treatment of giant coronary artery aneurysm. *J Thorac Cardiovasc Surg.* 2005;130:817-21.
3. Inan K, Ucak A, Onan B, Hastaoglu O, Temizkan V, Yilmaz A. Combined surgical approach to multiple giant coronary artery aneurysms. *Heart Surg Forum.* 2009;12:E294-6.
4. Firstenberg M, Azoury F, Lytle B, Thomas J. Interposition vein graft for giant coronary aneurysm repair. *Ann Thorac Surg.* 2000;70:1397-8.
5. Nezić D, Cirković M, Knezević A, Mangovski LA. Coronary-coronary radial artery graft for single, distal LAD lesion. *Ann Thorac Surg.* 2004;78:1078-80.

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Reply to the Editor:

We thank Drs Nezić and Cirković for their comments and contributions to our article about surgical treatment options for coronary artery aneurysm. We think that they are correct in pointing out most of the issues that they stated. As mentioned in our previous article,¹ resection of the aneurysmal segment of the coronary artery and end-to-end anastomosis may cause tension on the anastomosis side. This undesirable tension can lead to fatal complications. As we stated in the previous report,¹ to avoid this situation the coronary artery was mobilized at both ends, and we then approximated the epicardial tissue on both sides of the left anterior descending coronary artery to avoid any unexpected tension on the anastomoses. We believe that it is reliable approach for aneurysm cases because of both the advantage of end-to-end

anastomosis with native tissue and reducing graft mismatch with the dilated coronary artery. On the other hand this method, is not very useful for sequential coronary artery aneurysms cases or if there is not enough intact coronary artery tissue after resection to get closer.

Autografts (left internal thoracic artery, radial artery, saphenous vein) should be carefully chosen to avoid diameter mismatch in coronary artery aneurysm surgery. Vascular structures adjacent to the aneurysmal segment could lack of normal vascular quality and may have become enlarged and tortuous. As in our case, the use of internal thoracic artery or radial artery in interpositional revascularization techniques for dilated coronary artery may lead to diameter mismatch. If the proximal part of the radial artery were to be used as a graft, the diameter mismatch problem would be partially eliminated. Otherwise, patency time would be short because of the graft mismatch. In addition, it should be remembered that radial artery spasm can easily be provoked during manipulation. Finally, use of the radial artery as the interposed graft for aneurysmal coronary artery revascularization has not been sufficiently demonstrated in the literature.

In a case presented by Nezić and colleagues,² a radial artery graft was used as intercoronary end-to-side bypass for stenotic the distal left anterior descending lesions. They used intercoronary anastomosis techniques for occlusion of the left anterior descending coronary artery. Their case is not coronary aneurysm, and their native coronary arteries were more appropriately matched to the radial artery in diameter. We therefore think that a radial artery graft should not be the first choice for interposition in a dilated native coronary segment after resection of coronary artery aneurysm. As a result, in selected cases of short-segment, single coronary artery aneurysm in the setting of a postresectional dilated coronary

artery, we believe that native coronary end-to-end anastomosis technique would be useful.

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References

1. Ucak A, Onan B, Hastaoglu O, Temizkan V, Yilmaz AT. Combined surgical approach to multiple giant coronary artery aneurysms. *Heart Surg Forum.* 2009;12:E294-6.
2. Nezić DG, Cirković MV, Knezević AM, Mangovski LA. Coronary-coronary radial artery graft for single, distal LAD lesion. *Ann Thorac Surg.* 2004;78:1078-80.

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Reply to the Editor:

We appreciate the comment from Abud and colleagues¹ regarding our study investigating the influence of left ventricular function on the development of systolic anterior motion (SAM) after mitral valve repair.

Their first comment refers to the effect of annuloplasty on the development of SAM. It is believed that excess annular reduction predisposes the mitral valve to the development of SAM. Although yet to be demonstrated, any reduction in annular circumference may reduce the mitral-aortic angle and consequently reduce the distance between mitral valve coaptation and the left ventricular outflow tract. Dagum and colleagues² demonstrated in their animal study that ring annuloplasty, especially using an artificial ring with some rigidity, displaced the anterior and posterior leaflet toward the left ventricular outflow tract. Kahn and colleagues³ presented a case report suggesting that undersizing of a mitral valve annulus could be the cause of

SAM. According to our data, however, there were no differences in the rate of semirigid ring usage or the average size of the artificial ring between cases with SAM and those without.⁴ The present study lacks several detailed data such as annular diameter or degree of annular reduction. Therefore, this issue lies beyond the scope of the present study and may require further investigation.

Their second comment refers to the relationship between the thickness of the interventricular septum (IVS) and the development of SAM. A bulging septum has been reported as a risk factor for SAM. Its mechanism has not been well defined, but a bulging septum may reduce the distance between mitral valve coaptation and the left ventricular outflow tract, and may increase the blood flow velocity in the left ventricular outflow tract. Said and colleagues⁵ reported 6 cases in which a bulging septum was considered the cause of SAM. According to the multivariate analysis in the present study, the thickness of the IVS is the independent risk factor for SAM. However, we could not demonstrate any cause and effect correlation between the thickness of the IVS and the risk of SAM, as seen in the ejection fraction or end-systolic diameter. We speculate that other factors such as the morphology of the interventricular septum or the diameter of the left ventricular outflow tract may influence the development of SAM. Therefore, this issue also requires further investigation.

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References

1. Abud B, Sahin A, Talay S. Systolic anterior motion after mitral valve repair. *J Thorac Cardiovasc Surg.* 2014;147:1433.
2. Dagum P, Green GR, Glasson JR, Daughters GT, Bolger AF, Foppiano LE, et al. Potential mechanism of left ventricular outflow tract obstruction

after mitral ring annuloplasty. *J Thorac Cardiovasc Surg.* 1999;117:472-80.

3. Kahn RA, Mittnacht AJC, Anyanwu AC. Systolic anterior motion as a result of relative "undersizing" of a mitral valve annulus in a patient with Barlow's disease. *Anesth Analg.* 2009;108:1102-4.
4. Manabe S, Kasegawa H, Fukui T, Tabata M, Shinozaki T, Shimokawa T, et al. Influence of left ventricular function on development of systolic anterior motion after mitral valve repair. *J Thorac Cardiovasc Surg.* 2013;146:291-5.e1.
5. Said SM, Schaff HV, Suri RM, Greason KL, Dearani JA, Nishimura RA. Bulging subaortic septum: an important risk factor for systolic anterior motion after mitral valve repair. *Ann Thorac Surg.* 2011;91:1427-32.

<http://dx.doi.org/10.1016/j.jtcvs.2014.01.026>

RAY CHU-JENG CHIU, MD, PhD, FRCSC, FACS, FACC (1934-2014) To the Editor:

Ray Chu-Jeng Chiu, MD, Professor and past Director of the Division of Cardiothoracic Surgery at McGill University, passed away on January 4, 2014. Born in Tokyo, Japan, Dr Chiu received an MD degree from the National Taiwan University in Taipei, Taiwan, followed by internship at Baltimore City Hospital. He then undertook residency training in Cardiovascular and Thoracic Surgery under Clarence Dennis at Downstate Medical Center in New York. After obtaining a PhD in Experimental Surgery at McGill University, Dr Chiu joined the faculty at that University in 1972, rising to the rank of full tenured Professor in 1981. He was Division Chief from 1992 to 2000 and spent his entire academic career at McGill University. As a caring doctor, Dr Chiu touched the lives of many patients who benefited from many of his innovative techniques and procedures, such as the spiral vena cava graft, dynamic cardiomyoplasty, retrograde coronary sinus cardioplegia, and stem cell therapy for heart failure. His contributions in the stem cell field included studies on adult stem cells derived from bone marrow, placenta, and fat. His first report on stem cell was in 1992 on cellular cardiomyoplasty, followed by his book in

1997. His publications and original contributions to the literature are extensive, and he was a visiting professor in most major universities worldwide. Perhaps the recognition and stature of Dr Chiu can be exemplified by his participation in the Nominating Committee for the Nobel Prize in Physiology and Medicine in 1982.

Ray touched the lives of all those who came in contact with him. He was an inspiration and role model for his students, residents, and peers. Ray always had a kind voice for those who searched advice from him. He encouraged and helped his trainees to do basic science and clinical research and to write manuscripts, and made them co-authors in his important contributions. Being with Ray discussing research ideas and projects was inspiring and informative, always leading to innovative and productive projects. His honesty and dedication were exemplary. His legacy will be the way in which he touched and enriched the lives of so many who were fortunate to have met him and the influence he had for those of his trainees who pursued academic and leadership careers. He will be sadly missed as one of the giants in cardiac surgery. He leaves behind his wife Jane, daughter Wendy, son Daniel, daughter-in-law Lisa, and granddaughter Anya.

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NOT CONVINCED THAT RIGHT INTERNAL THORACIC ARTERY IS SUPERIOR TO RADIAL ARTERY

To the Editor:

We read with great interest the study of Navia and colleagues¹