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Commentary: Are coronary aneurysms surgical disease?

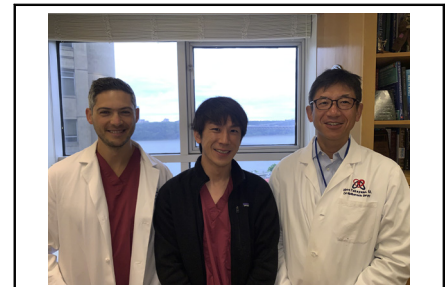
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Because the available surgical knowledge and the contemporary guidelines are limited with respect to aneurysmal coronary diseases, this case report provides an excellent opportunity to learn more about this entity. Although we typically encounter coronary aneurysms in a mild-to-moderate (ie, ectatic) form accompanying stenotic coronary disease for coronary artery bypass grafting consultations without a need of aneurysm repair, larger aneurysms may require interventions. The key surgical principles are aneurysm exclusion and distal bypass.

Aneurysmal exclusion with inflow and outflow ligation can be challenging. In the present case, the authors performed the proximal occlusion by pericardial patch closure of the left main ostium; however, residual flow within the excluded aneurysm was noted.¹ Incising the aneurysm provides excellent access to potential sites of inflow, although the calcified nature of the presented aneurysms might have prohibited this approach.

Total arterial revascularization to the distal arteries, as done in this case, may provide long-term survival benefit.¹ Especially in pediatric cases, arterial grafting should be considered to further accommodate somatic growth.² If ligation of a mild or moderate aneurysmal proximal artery is not performed, saphenous vein grafting may be a choice to overcome competitive flow.

Adding to the excellent discussion in this article, the literature suggests that coronary fistulas could be a cause of aneurysm formation due to persistent high flow in the coronaries.³ This condition is most often congenital, although it



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CENTRAL MESSAGE

Regarding coronary artery aneurysms, much remains unknown. Surgical studies are needed to better define the role of their surgical management.

can be acquired from trauma, infection, or iatrogenic injury or even be the consequence of aneurysms.⁴ Identifying the communication between artery and other systems, such as atria, ventricle, and pulmonary artery, is critical in surgical planning.

Finally, this unique and excellent case presentation reminds us of the need for a true coronary subspecialty as has recently been advocated by multiple groups.^{5,6} There are more questions than answers. What is the size threshold to repair a coronary aneurysm? What is the risk of unrepaired right coronary aneurysms or residual flow within the aneurysm after a repair? What is the benefit of the second and third arterial grafts? Complex cases such as this highlight the need for deep expertise among surgeons, development and application of novel techniques, and dedicated research efforts to explore best practices for atypical or rare presentation of coronary disease. In a recent review article on the management of coronary artery aneurysms, only 75 words were given for “surgical interventions” with the conclusion that “the precise success rate of these techniques is not known due to the rarity of this surgery and the impact of reporting bias.”⁷ We can do better.

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