INFLUENCE OF CORONARY ARTERIES TRANSFER ON THE GEOMETRY OF THE NEOAORTIC ROOT IN ARTERIAL SWITCH

To the Editor:

Zhu and colleagues\(^1\) raise an important issue and confirm that some degree of aortic valve insufficiency and aortic root enlargement is not rare after aortic switch operation (ASO).\(^2-4\) Apart from bicuspid aortic valve, all 3 other predictors of aortic root dilation in the study are caused by an initial enlargement of the pulmonary annulus in the presence of a ventricular septal defect (ie, Taussig-Bing anomaly, previous pulmonary artery banding, and left outflow tract obstruction [seen in transposition of the great arteries-ventricular septal defect-aortic arch obstruction]). Obviously, an aortic root that enlarges afterward is a neo-aortic root that was enlarged to start with. The purpose of this letter is to discuss the influence of the coronary transfer on an already enlarged neoaorta.

As seen in Figure 1, basic geometry shows that the diameter of the neoaorta remains the same when using the punch technique, enlarges when applying a trapdoor, and decreases when cutting a rectangular piece off the neoaortic wall. My own technique is to never use a trapdoor and to constantly cut off a rectangular piece of the neoaorta to reduce it (and on both sides when the pulmonary artery is very large).\(^5\) My own experience on several hundreds of ASO procedures shows this to be safe,\(^6\) but does not provide sufficient evidence. Nevertheless, this simple geometric illustration seems correct. Knowing the risk of late aortic insufficiency and root dilation, it seems important to try to decrease or correct the root enlargement at the time of ASO.

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Conflict of Interest Statement
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References
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