Technology to assess aortic valve repair

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In this issue of the *Journal*, Berra and colleagues¹ have presented technology to assess aortic valve repair before separation from cardiopulmonary bypass and before eventual evaluation by transesophageal echocardiography. Their contention is that the technology, once mastered, can be used for accurate assessment of the aortic valve after intraoperative repair. The challenges that are obvious to the reader have been noted in their discussion section, which includes such important issues as the need for coronary dissection and control to pressurize the aortic root. This is a rather important issue, and it merits further comment if this technology gains support and acceptance to surgeons. Many operations are reoperative cases with significant adhesions. Dissection of coronary arteries under these circumstances could prove to be hazardous and unnecessary. Temporary intra-aortic occlusive devices may prove to be disruptive, could embolize into the distal coronary, and indeed may be forgotten and not retrieved. Furthermore, a high aortic transection, as required for this assessment, may hinder proper suture placement for valve repair.

These limitations notwithstanding, the article of Berra and colleagues¹ is presented in the innovation section and represents a reasonable inquiry into a situation that needs to be resolved if more attempts are to be made for aortic valve repair rather than replacement. Another report² has also approached this clinical dilemma by using “water testing” techniques for direct visualization from the left

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Central Message

Accurate intraoperative assessment of aortic valve repair before separation from bypass warrants more innovative inquiry. A note of caution is appropriate until further improvements have been made.

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ventricle with a videoscope. Other measures could include performing a traditional surgical approach and testing the result with a transaortic minibronchoscope during a period of crystalloid cardioplegia. Although measurements are not likely to be made, a qualitative assessment of leaflet coaptation could be possible. There are many ways to look at this conundrum. To their credit, Berra and colleagues¹ have embarked on a preliminary method that, if modified and perfected, could result in an accepted intraoperative diagnostic tool. This in turn could result in more attempts at and newer methods of aortic valve repair.

References

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