Commentary: Mitral repair in symptom-free patients with normal ventricles: Becoming the new normal?

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Central Message

A propensity toward mitral repair versus replacement for symptom-free patients with normal left ventricular function among higher-volume surgeons coupled with better outcomes may drive early repair.

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We have all been there. A young, vigorous woman referred to you with severe asymptomatic mitral regurgitation is in your office to discuss surgical repair. You proceed to describe the incision you are going to make somewhere on her chest; the 1% to 2% risk of bleeding, stroke, infection, heart failure, and death; the fact that she may end up with a prosthetic mitral valve requiring lifelong anticoagulation; and the fact that she is going to have to miss a month or more of her Pilates classes because the American College of Cardiology and American Heart Association Task Force on Practice Guidelines (ACC/AHA) says that it is “reasonable” to repair her mitral valve now. Justifying this aggressive approach in otherwise perfectly healthy patients has, understandably, given many of us pause. Thanks to recent ACC/AHA guidelines,¹ asymptomatic severe mitral regurgitation with normal ventricular function now resides in a peculiar “twilight zone” of actionable cardiac surgical pathologies that confers neither symptoms nor even a remote risk of acute illness for months or even years after its diagnosis.

The rationale behind recent ACC/AHA class IIb guidelines advocating a more aggressive, proactive stance toward early repair for chronic severe mitral regurgitation in advance of traditional class I triggers of congestive symptoms and left ventricular dysfunction or enlargement is rooted in the premise that careful intensive surveillance or “watchful waiting” in symptom-free patients with normal left ventricular function may not be consistently effective in achieving optimal surgical timing before structural or functional compromise occurs. Justification of early surgery for these relatively healthy patients is predicated on virtually assuring a successful and durable mitral repair. Importantly, this particular guideline holds that performing a valve replacement in these patients, either as primary treatment or conversion from a failed repair, would be “considered a *complication* of this approach.”¹ The study in this issue of the *Journal* by Hannan and colleagues² is perhaps the first that lends contemporary “real-world” support for

early mitral repair versus replacement in these patients and evidence that this approach has gained traction among high-volume surgeons. Whether this trend eventually translates to lower-volume surgeons remains to be seen.

Inherent limitations of this registry-based analysis were articulated nicely by Hannan and colleagues² themselves. Nevertheless, the lack of data pertaining to recurrent mitral regurgitation or conversion rates muddies the direct relevance of the study’s conclusions to the premise of early repair in the context of the aforementioned guidelines. Because repair durability is crucial in comparisons with mitral replacement, it is questionable whether a 4-year study interval addresses this adequately. Moreover, it would have been useful to know to what extent left atrial enlargement or asymptomatic paroxysmal atrial fibrillation actually prompted repair. The higher stroke rates associated with higher-volume surgeons is surprising, but it may be related to uneven definitions of neurologic injury.

Despite these limitations, the significantly lower mortalities amongst propensity-matched patients undergoing repair versus replacement during the duration of this study is notable, given the equivocal clinical outcomes recently observed between repair versus replacement for severe ischemic mitral regurgitation.³ Most significantly, the conclusions of this study affirm the critical importance of carefully assessing the likelihood of a successful durable repair among these patients.

References

1. Nishimura RA, Otto CM, Bonow RO, Carabello BA, Erwin JP III, Guyton RA, et al; American College of Cardiology; American College of Cardiology/American Heart Association; American Heart Association. 2014 AHA/ACC guideline for the management of patients with valvular heart disease: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *J Thorac Cardiovasc Surg*. 2014;148:e1-132. Erratum in: *J Thorac Cardiovasc Surg*. 2014;64:1763.
2. Hannan EL, Samadashvili Z, Smith CR, Lahey SJ, Gold JP, Jordan D, et al. Mitral valve repair versus replacement for patients with preserved left ventricular function without heart failure symptoms. *J Thorac Cardiovasc Surg*. 2019;157:1432-9.e2.
3. Acker MA, Parides MK, Perrault LP, Moskowitz AJ, Gelijns AC, Voisine P, et al; CTSN. Mitral-valve repair versus replacement for severe ischemic mitral regurgitation. *N Engl J Med*. 2014;370:23-32.