has been passed across the mitral valve to extract a left ventricular thrombus.¹¹ Video-assisted approaches have been described to remove left ventricular tumors from transaortic and transmitral approaches.^{12,13}

The 5-mm scope can be placed across a normal aortic valve without traumatizing the leaflets as well. It is optimal to insert the scope over the top of the left coronary cusp, away from the septum, and to angle the flexible tip toward the apex. The advantage of the 5-mm scope is that it allows adequate room for unencumbered use of other instruments to extract the thrombus, as well as a wider range of visibility inside the ventricle. Randall stone forceps, originally designed for common bile duct exploration, are ideally suited because they have varying degrees of curvature for reaching the apex of the ventricle.

We report a useful technique for removal of a mobile left ventricular thrombus with a transaortic video-assisted endoscopic approach. This technique provides an alternative to a left ventriculotomy when a protruding mobile left ventricular thrombus is found on intraoperative TEE.

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EDITORIAL COMMENTARY

Just try the experiment

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The article in this issue of the *Journal* by Williamson and colleagues¹ from the Lahey Hospital represents an intriguing and clever solution to what is becoming an increasingly common scenario in modern cardiothoracic surgery—the older patient with mixed, advanced cardiovascular disease. Williamson and colleagues sought out a method that could effectively address the concomitant problems of valvular disease, atherosclerosis, and severe heart

Preserved cardiac specimen demonstrating thrombus layering inside the left ventricle.

Central Message

Consider and explore multiple treatment options for complex, advanced cardiovascular disease.

See Article page e1.

failure in the setting of potentially catastrophic embolic disease. Their novel operation brought together standard surgical techniques of cardiopulmonary bypass, saphenous vein coronary artery bypass grafting, and aortic valve replacement, all of which are safe and proven operative principles, and combined them with the adaptation of modern endoscopic visualization for extraction of intracavitary thrombus. One need look no further than the markedly improved left ventricular function before the patient's discharge and 3-year clinical follow-up as evidence of a successful operation.

This case report highlights 3 concepts that are emerging as cardiothoracic surgeons seek to integrate rapidly evolving technology and the challenges of older patients with advanced disease and multiple comorbidities. First, underdiagnosis is frequent in this patient population, and coordinated care across the "heart team" is critical to the optimal outcome. Although the "heart team" approach is most commonly associated with transplantation and transcatheter valve therapies, for patients with concomitant cardiovascular disease a broader team must be assembled, including surgery, heart failure, interventional cardiology, critical care medicine, and cardiovascular anesthesia. Careful, thoughtful deliberation helps build consensus about not only the appropriate treatment but also the postoperative care, because many of these patients will have an extended hospital course.

The second principle is the critical role of anatomy and sound surgical techniques. The Central Figure for this editorial is of a preserved specimen from the Hunterian Museum at the Royal College of Surgeons in London.² This particular specimen is a cross-section of the left ventricle, and there is a thrombus within the cavity resulting from previous myocardial infarction. This and other pathologic specimens have provided our specialty hundreds of years of understanding of cardiovascular anatomy as the foundation of surgical strategies. Our specialty is uniquely positioned to treat all forms of cardiovascular disease, and as we embrace the addition of new techniques and technologies in our field, we should certainly also maintain the integral role of standard operations that have been proved to extend the lives of millions of patients.

Finally, it is our obligation to continually seek improvements in the individual care of each patient. The "new normal" of advanced cardiovascular disease and comorbidities demands that each patient receive an individualized approach. As modern health care increasingly seeks to standardize care, we must find ways to adapt and combine established operations with novel concepts. As Williamson and colleagues have shown in this case report, one method is to adopt proven therapies from another realm (endoscopy) into a standard cardiac surgical procedure. Another method is to combine 2 or more cardiovascular specialists, bridging expertise for optimal outcome, such as hybrid coronary revascularization or staged surgical and catheter ablation for atrial fibrillation.^{3,4} Yet another method is the treatment of aortic dissection with open and endovascular reconstruction, which brings new technology together with open surgery.⁵

In conclusion, this case report hearkens back to the words of John Hunter in 1775 to Edward Jenner. In this brief communication, he simply states, "I think your solution is just, but why think, why not try the Expt."⁶ Like our predecessors, we should be willing to explore a wide range of possible treatments for our patients with advanced, complicated cardiovascular disease. At the same time, we should also be unwilling to be satisfied with the status quo, keeping our collective mind open to new possibilities, strategies, and collaborations to advance surgical science.

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