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<http://dx.doi.org/10.1016/j.jtcvs.2016.04.027>

WHAT DEFINES THE OPTIMAL SAFE OPERATIVE MANAGEMENT OF ACUTE TYPE A AORTIC DISSECTION?

Reply to the Editor:

In our recent report on the influence of surgical strategy on survival after repair of type A aortic dissection (Figure 1), we reported long-term outcomes on 196 patients who underwent operative repair via a variety of surgical techniques. Patients who were treated with an operative strategy including no aortic crossclamp use, deep hypothermic circulatory arrest, and the use of only antegrade perfusion after aortic replacement had improved long-term survival compared with patients who were treated with an operative strategy without all 3 of these technical steps.¹

In his letter to the Editor, Yu² summarizes his various operative treatment strategies for the repair of type A aortic dissection in China. Yu² notes that unequal group sizes in our study may be associated with the different views about operative strategies and suggests that a prospective multicenter study is required to confirm the optimal surgical approach and improve treatment strategies. We agree that the optimal therapy could only be determined by a randomized study that is not likely to occur due to surgeon preference and other factors. The group sizes were different in our study due to the fact that there were 6 different operative combinations (largely due to surgeon preference) of the 3 technical steps proposed by David and colleagues in 1999.³

David and colleagues³ proposed a safe and reliable method for the surgical treatment of type A aortic dissection that was associated with a dramatic reduction in operative mortality. David⁴ added another excellent contribution on this topic in 2015 with technical details and noted, “this is an operation that every cardiac surgeon should be able to perform, and if it is planned and executed well, the mortality and morbidity rates can be reduced.” And further, “do this operation as described, and your patient will have a 90% chance to go

FIGURE 1. Computed tomography scan image of a classic type A aortic dissection.

home alive and without neurologic deficit.”⁴ Many of the technically challenging procedures proposed by Yu² do not fall into this category. Yu notes that in his clinical practice “most of the patients have to undergo ascending aortic replacement plus total arch replacement procedure.”² We do not see that in our practice. In contrast, we find that the majority of tears are in the ascending aorta and can thus be excluded with an ascending aortic graft only. Similarly, David⁴ noted that most tears they encountered were just above the sinotubular junction in the greater curvature of the ascending aorta and that “the safest thing for you to do in this case is to replace the ascending aorta... and leave the tear in the aortic arch” in an effort to save the patient’s life at that time.

Yu² notes that in his experience, crossclamping the ascending aorta will not affect a patient’s long-term survival. This is a difficult statement to make without long-term data, critical evaluation, and statistical analysis.

The benefits and drawbacks of various cannulation and cerebral protection strategies could also be debated as adjuncts to the repair of acute type A aortic dissection. However, we argue that not every cardiac surgeon is comfortable with axillary artery cannulation and complicated cerebral protection strategies when he or she may not encounter this deadly disease frequently and its repair requires swift action with high associated risk.

Yu² details the Fu Wai classification as an alternative to the Stanford classification of aortic dissection. In our practice, even the simple Stanford classification is often too complicated for primary care and emergency medicine physicians who are typically the referring physicians for these patients. Interpreting the imaging modalities is quite complicated and the choice of surgical versus medical management should be as clear and simple as possible. Thus, the Fu Wai classification is much too complicated for the treatment of this rapidly deadly disease that requires prompt triage and treatment.

Although patient populations in China may be very different from those in North America, we cannot support

Author has nothing to disclose with regard to commercial support.

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the recommendations proposed by Yu²: aortic root replacement if the root is affected by the dissection, thoracic endovascular aortic repair as first choice for descending dissection, and hybrid total arch replacement or total arch replacement plus modified elephant trunk procedure if Fui Wai type C with arch involvement. Yu and the National Center for Cardiovascular Disease, Fuwai Hospital in Beijing, likely have extensive experience in complex arch replacement and endovascular therapies for aortic pathology with acceptable outcomes in large numbers of patients. However, we continue to advocate for the simple approach of replacement of the ascending aorta for most acute Stanford type A aortic dissections, arch replacement in the few warranted cases, and medical treatment of uncomplicated Stanford type B aortic dissections. With this simple classification and straightforward surgical principles, cardiac surgeons should be successful in the most important goal of this operation—to save the life of the patient from the immediate risks of tamponade, rupture of the aorta, coronary ischemia, or malperfusion.

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<http://dx.doi.org/10.1016/j.jtcvs.2016.04.086>

CARDIOTHORACIC SURGICAL CRITICAL CARE IS CRITICAL TO CARDIOTHORACIC SURGERY

Reply to the Editor:

By the very nature of what is encompassed by the scope of procedures and management of patients undergoing cardiothoracic surgery, patients are inherently critically ill. This critically ill classification has different degrees of duration and complexity. Although there

are a spectrum of cases in cardiothoracic surgery, from esophagectomies and lobectomies to transplant and aortic dissections, it is unlikely that a seasoned cardiothoracic surgeon would say that each surgery and each patient has uniquely critical periods.

Sherif¹ recently commented on Andersen's article regarding certification in cardiothoracic surgical critical care (CTSCC).² In his article, Andersen concludes with a call for a CTSCC subspecialty certificate that would be attainable by all current and future cardiothoracic surgeons.² This specialty certification has been advocated by the Foundation for the Advancement of Cardiothoracic Surgical Care. The acknowledgment of the importance of critical care experience has been discussed nationally,³ by the American Board of Thoracic Surgery (ABTS),⁴ and by Sherif himself in previous articles advocating for core competencies in CTSCC.^{5,6}

Whether all cardiothoracic surgeons have the expertise to deliver superior-quality CTSCC or whether there is a subgroup of cardiothoracic surgeons with a special interest in critical care is the fundamental question for our specialty and the ABTS. Not all cardiothoracic surgeons deliver CTSCC nor are all cardiothoracic surgeons interested in CTSCC. Each practice is different and each health system is different.

Undoubtedly, cardiothoracic surgeons who have an interest in CTSCC and achieve the clinical acumen and training for CTSCC would deliver the best care. As we move toward more integrated training programs, there may be a role for dedicated CTSCC subspecialty fellowships to provide the advanced training. However, we must be mindful of the inherent critical care nature of our specialty. It is imperative for all cardiothoracic surgeons to maintain that skillset.

Whether there is a path for grandfathering with a certifying exam or a need for specialty training with a certifying exam, we can all agree that this is a nuanced decision and I agree with Sherif that the ABTS is to be commended for advancing and role of cardiothoracic surgeons and promoting CTSCC.

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