“Consensus guidelines for the surgical treatment of infective endocarditis”: The surgeon must lead the team

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The American Association for Thoracic Surgery’s “Consensus Guidelines for the Surgical Treatment of Infective Endocarditis,” published in this issue of the *Journal*,¹ addresses an area that includes complex cases with often complex decision making. Guidelines have been promulgated elsewhere in medicine. Whether they are intended so or not, they can evolve into hard and fast principles, sometimes leading to incorrect decision making and even creating medicolegal problems for treating physicians. Unlike the patients covered by guidelines for treating valvular or aortic disease, for whom numerical gradients and diameters enter directly into clinical decision making, patients with infective endocarditis (IE) can have myriad variables that influence decision making, and guidelines accordingly cannot integrate all the necessary considerations. Accordingly, it is critical that the “Consensus Guidelines for the Surgical Treatment of Infective Endocarditis”¹ be viewed only as a set of general principles to guide decision making. Decision making in IE requires early involvement of an experienced cardiac surgeon who can decide on an individual basis what guidelines are or are not applicable.

For IE, a surgeon-led multidisciplinary team is needed. Surgical involvement early in the course of evaluation is important to help determine whether surgery will be needed and if so to plan the timing, the operative plan, and the postoperative care. Decision making may be simple for patients with *Streptococcus* species endocarditis who have had their fevers reduced on antibiotic therapy and have good valve function or for febrile patients with *Staphylococcus aureus* endocarditis and progressive cardiac destruction. Many patients with IE are in between, however, requiring more critical and nuanced judgement that can only be provided by a surgeon-led team.

The responsible surgeon should be present when transthoracic echocardiography is performed in patients with IE. Particularly in patients with previous cardiac valvular

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Central Message

Patients with infective endocarditis need early input from the responsible cardiac surgeon, who must also lead the care team in evaluation, decision making, and carrying out surgery as needed.

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surgery, echocardiographic findings must be made with knowledge of the anatomy and details from the previous operation. Findings such as “false aneurysms,” which would indicate continued cardiac destruction, must be made with confidence and with surgical input. In the case of patients who have had their fevers reduced but for whom medical colleagues want an operation on the basis of echocardiographic findings, it is the surgeon’s responsibility to participate in interpretation of the echocardiographic findings that are being presented as an indication for surgery.

Furthermore, the responsible surgeon needs to be involved in preoperative medical management. An infectious disease specialist should be part of a team treating IE to provide additional expertise such as interpretation of minimum inhibitory concentration data for sensitive organisms, management of antibiotic-resistant organisms, late follow-up during antibiotic treatment, and other issues. For example, a prolonged antibiotic course can create complications such as colitis, allergy, and bone marrow suppression.

Finally, the patient whose IE is caused by intravenous drug use deserves comment. Addiction medicine is now a separate and evolved specialty, and such a physician should

be part of the team treating intravenous drug—related IE. Before discharge after surgery and at follow-up, it is of value to create a “contract” with the patient. If there is recurrent intravenous drug abuse and new IE, it should be made clear to the patient after recovery from an operation that there may not be another operation offered, and it may be necessary to consider putting this understanding in writing. This can assist in creating additional motivation

to remain “clean” and can assist in decision making if reinfection occurs.

Reference

1. Pettersson GB, Coselli JS, Hussain ST, Griffin B, Blackstone EH, Gordon SM, et al. 2016 The American Association for Thoracic Surgery (AATS) consensus guidelines: surgical treatment of infective endocarditis. *J Thorac Cardiovasc Surg.* 2017;153:1241-58.e29.