

Commentary: Multivalve infective endocarditis: Further support for radical debridement and complex reconstruction

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Surgery for infective endocarditis of the aortic root and surrounding structures remains a condition associated with high mortality. Even in the hands of experienced surgeons, the radical debridement required to completely excise infected tissue oftentimes leaves one with the need for complex patch reconstruction of the intervalvular fibrosa.¹ Autologous pericardium or bovine pericardial patches are commonly used to re-establish the aortic, mitral, or tricuspid annulus before proceeding with either valve repair or replacement. The mortality associated with these procedures remains quite formidable despite improvements in surgical technique, antibiotics, and perioperative care.

In this issue of *JTCVS Techniques*, Jayanyar and colleagues² present a case report of a young patient presenting with combined aortic and tricuspid valve endocarditis with destruction of the intervalvular fibrosa. They provide the readers with clear intraoperative photographs and a video of the most critical portions of the procedure, the re-establishment of continuity of the fibrous trigone shared by the aortic and tricuspid valves. There is an emphasis that this is a “transaortic-approach only” technique, but in reality, there is a generous right atriotomy that permits the visualization of the tricuspid valve necessary to carry out a complex tricuspid valve repair. Information is not given on any perioperative complications associated with this procedure, but the authors did confirm a gratifying 5-year survivor following this extensive operation.

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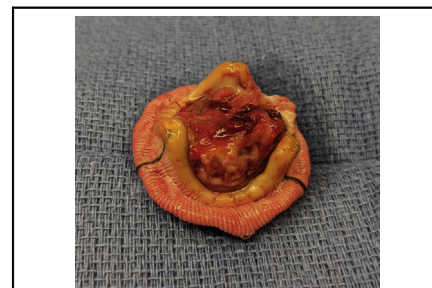
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Prosthetic tricuspid valve endocarditis causing tricuspid stenosis.

CENTRAL MESSAGE

Surgery for infective endocarditis of the aortic root and intervalvular fibrosa requires extensive debridement, and complex reconstruction of the fibrous structure of the heart is necessary.

It was interesting to see that the authors did not obtain advanced imaging such as a transesophageal echocardiogram before proceeding with surgery. It is true that the preoperative transthoracic echocardiogram suggested both aortic and tricuspid valve involvement. However, given the extensive tissue destruction often seen with *Staphylococcus aureus* infection (and the significant increase in operative mortality associated with this bacterium), a transesophageal echocardiogram before proceeding may permit surgeons to develop a more detailed perioperative plan that includes the involvement of surgeons experienced with advanced aortic root reconstructive and valve repair techniques.³

Even in experienced hands like those of the senior authors on this case report, the operative mortality and long-term outcomes associated with infective endocarditis and reconstruction of the intervalvular fibrosa support cautious optimism when taking on these cases. In a recently published series of 127 consecutive patients undergoing such procedures in an experienced center, the 30-day mortality was 28.3%, with a 90-day mortality of 37%.⁴ Five-year survival was 41.8%, and the presence of *S aureus* was predictive of a greater mortality on multivariable analysis (odds ratio, 1.65; $P = .04$). Similar results were reported from experienced surgeons here in the United States as well.⁵ Fortunately, if one can have obtain a technically sound result using techniques like those presented in this

report, less than 6% of patients⁴ will go on to develop recurrent endocarditis that requires a reoperation.

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