The current study¹ illustrates that good operative outcomes can be achieved in patients undergoing surgery for aortic root abscess in the setting of acute infective endocarditis. Operative mortality and long-term mortality are similar to those of patients without abscess. Applying careful surgical technique with an emphasis on complete debridement of infected tissue remains the key to success, regardless if one chooses a homograft or stentless prosthesis.

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Commentary: Our short game is long but long game is short!

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Infective endocarditis (IE) represents an important challenge at many levels. This is becoming all the more pressing with the opioid epidemic, which was declared a public health emergency in 2017. The study by Yang and colleagues¹ specifically addresses the impact of aortic root abscesses in a cohort of 336 consecutive adults undergoing surgery for IE. The authors' main conclusion was that despite the added complexity and risk of perioperative complications in patients with aortic root abscesses, operative outcomes were favorable. The authors should be congratulated for their excellent results in a challenging patient population. Their results raise several important points.

First, this study highlights the well-established relationship between volumes and outcomes in cardiac surgery. Their operative results were excellent, which reinforces the importance of identifying centers of excellence in

Extensive aortic root debridement requires complex reconstruction.

CENTRAL MESSAGE

Complete debridement of infection + appropriate reconstruction by experienced aortic surgeons = good acute outcomes with or without root abscess but long-term survival is still suboptimal.

cardiac surgery to deal with greater-risk patients or greater-complexity interventions. Interestingly, however, although there was no difference in operative mortality from a statistical standpoint, there was a clinically relevant difference in mortality (>2-fold) in patients with root abscesses (8.4% vs 3.8%), underscoring the very real risk of severe root destruction. As the authors mention, the key principle is radical debridement of all infected tissue, followed by reconstruction. This can range from a simple patch with stented valve replacement to a full Commando

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root replacement. This is sometimes difficult to predict preoperatively, which argues again for referral to concentrate surgical care whenever possible in the hands of dedicated aortic teams with specific expertise in complex root reconstruction.

Second, the similar long-term survival between patients with and without root abscesses is a positive finding. However, it is sobering to note that 10-year survival in a population of patients aged 55 years is so low (41% and 43% in both groups). This is obviously much lower than the age-matched general population, but importantly also much lower than observed after valve replacement for non-IE patients. Even if opioid-related infections (14% of the total cohort) were excluded from the analysis, the results would remain suboptimal. This highlights many points. Endocarditis should perhaps be considered a chronic condition, with the recognition that surgery is but one step in the overall management of these patients. Furthermore, there is a dire need to understand the causes of death in these patients, to organize relevant multidisciplinary teams that can

adequately follow them in the long term. It is therefore imperative to set up prospective registries with longitudinal clinical and imaging follow-up of patients with IE. Short of this, it is impossible to improve long-term outcomes. Interestingly, the number of documented reinfections was low (5 patients), but one may speculate that some of the deaths may have been due to undiagnosed infection or opioid relapse.

In summary, this study highlights the excellent surgical outcomes that can be obtained in a center of excellence with dedicated aortic teams, using a variety of surgical techniques specifically tailored to each patient. Now the time has come, as a community, to focus our efforts improving our long game in the management of IE.

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