Commentary: When is repeated cardiac valve surgery justified during drug-associated infective endocarditis?

Ari A. Mennander, MD, PhD

From Tampere University Heart Hospital and Tampere University, Tampere, Finland.

Disclosures: Author has nothing to disclose with regard to commercial support.

Received for publication June 28, 2019; accepted for publication June 28, 2019; available ahead of print Aug 6, 2019.

Address for reprints: Ari A. Mennander, MD, PhD, Tampere University Heart Hospital, SDSKIR, PL 2000, Tampere, Finland (E-mail: ari.mennander@sydanskairaala.fi).

J Thorac Cardiovasc Surg 2020;159:1271-2

0022-5223/\$36.00

Copyright © 2019 by The American Association for Thoracic Surgery

<https://doi.org/10.1016/j.jtcvs.2019.06.081>

Ari A. Mennander, MD, PhD

Central Message

Repeated cardiac valve surgery for drug-associated infective endocarditis adheres to persistent follow-up and adjuvant treatment.

See Article page 1262.

There are various types of drug abusers with different habits, making it questionable whether drug-associated infective endocarditis may be considered as one unified disease entity.^{1,2} Severity of the disease, history of dialysis, and shock are some examples determining the outcome after surgery.^{2,3} Meticulous surgery seems not as detrimental to these patients as the disease entity itself.¹ Sadly, the most perverse of these patients may even desire any treatment, including repeated surgery, only as long as the obsession for excessive drugs is appeased during hospitalization.

Mori and colleagues⁴ reported on the records of 925 patients from 8 centers with drug-associated infective endocarditis who were analyzed after first-time or repeated cardiac valve surgery. The patients all had drug-associated infective endocarditis by definition, and tricuspid and Staphylococcal valve infections were common. There were 652 patients with first-time and 273 patients with repeated cardiac valve surgery. The proportion of repeated cardiac valve surgeries increased by time, suggesting that active treatment was frequently offered. Although the patients were young and relatively fit during first-time surgery, concurrent comorbidities defined the destiny after repeated surgery; repeated cardiac valve surgery was alarmingly associated with early mortality.

Association does not necessarily indicate causality. There are unaddressed details and some missing data in this captivating study. Why was repeated surgery needed if infection was treated appropriately? How successful was the eradication of the organisms? What was the compliance of antibiotic treatment in the patients? How consistent were the treatment protocols of the patients at the 8 different centers? How many patients were septic before and after surgery? Were abscesses present at surgery? Were all important variables included in the analysis? Increasing number of repeated surgeries may not necessarily mean increased number of drug abusers.¹ Some patients were found in both groups in this retrograde registry analysis. Only early mortality, which undeniably mirrors early surgical success, was addressed. Taken

together, was mortality secondary to repeated surgery or overall patient risk?

What is the solution for the patient with drug-associated infective endocarditis who develops recurrent infection? Does the society need to pronounce these patients with infective endocarditis as persons with doomed destiny and repeated surgery be categorically denied based on the poor survival found in this study? Is it not expected that repeated surgery is always more dangerous than first-time surgery in any patient? In this trap, Mori and colleagues⁴ did not fall; the patients with drug-associated infective endocarditis owed a feared destiny were only compared with fellow sufferers.⁴ The aim of this study was to evaluate the relationship between repeated operations and adverse events specifically in the context of the phenotypically unique patients with drug-associated infective endocarditis. The clinical implication of this study was that repeated valve surgeries pose increased risk in this patient population albeit young age.⁴ The surgeon needs expertise in technical aspects and knowledge of human nature when deciding together with the patient for repeated surgery that also includes abstinence from excessive drugs, commitment to social support, and long-term conservative treatment.

References

1. Kim JB, Ejiofor JI, Yammin M, Ando M, Camuso JM, Youngster I, et al. Surgical outcomes of infective endocarditis among drug users. *J Thorac Cardiovasc Surg.* 2016;152:832-41.
2. Rudasill AE, Sanaiha Y, Mardock AL, Khoury H, Xing H, Antonios JW. Clinical outcomes of infective endocarditis in injection drug users. *J Am Coll Cardiol.* 2019;73:559-70.

3. Ferraris VA, Sekela ME. Missing the forest for the trees: the world around us and surgical treatment of endocarditis. *J Thorac Cardiovasc Surg.* 2016;152:677-80.
4. Mori M, Mahmood SUB, Schranz AJ, Sultan I, Axtell AL, Sarsour N, et al. Risk of reoperative valve surgery for endocarditis associated with drug use. *J Thorac Cardiovasc Surg.* 2020;159:1262-8.e2.