

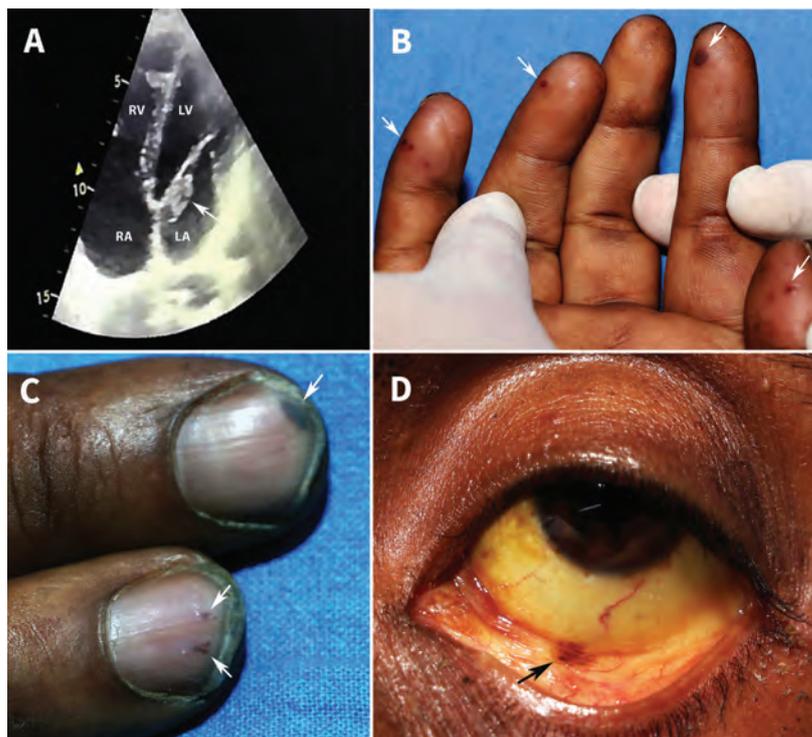
# Mitral valve endocarditis caused by *Staphylococcus aureus*

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**A** 35-year-old man who was an intravenous drug user was admitted to hospital (with high-grade fever (about 40°C) and rapidly progressive dyspnea for 1 week. He had peripheral embolic phenomena: Janeway lesions (multiple nontender maculopapular rashes on the tips of the fingers; Figure 1B), subungual hemorrhages (Figure 1C) and conjunctival hemorrhage (Figure 1D). Cardiac auscultation showed a high-pitched, apical systolic murmur of grade 3. On transthoracic echocardiography, we found a mobile vegetation (20 × 16 mm<sup>2</sup> in size) on the anterior leaflet of the mitral valve (Figure 1A; a video is available in Appendix 1, at [www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190641/-/DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190641/-/DC1)). The patient was started empirically on vancomycin and gentamycin administered intravenously. Three blood samples taken for culture from different venipuncture sites grew methicillin-resistant *Staphylococcus aureus*. His condition rapidly deteriorated and he died of refractory septic shock.

Several factors increase the likelihood of septic embolization in endocarditis: valve affected, infecting organism, and size and mobility of the vegetation. Endocarditis caused by *S. aureus* and involving the mitral valve (especially the anterior leaf), with a larger (> 10 mm) mobile vegetation independently carries a high risk of septic embolization, as seen in our patient.<sup>1,2</sup>



**Figure 1:** Images from a 35-year-old man with mitral valve endocarditis caused by *Staphylococcus aureus*: A) apical 4-chamber view on transthoracic echocardiography showing large vegetation (20 × 16 mm<sup>2</sup> in size) on the anterior leaflet of the mitral valve, B) Janeway lesions, C) subungual hemorrhages and D) conjunctival hemorrhage.

## Reference

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A video of transthoracic echocardiography in a 35-year-old man with endocarditis is available in Appendix 1, at [www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190641/-/DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190641/-/DC1)

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