

Images in  
Cardiovascular Medicine



# Three-valve Endocarditis Caused by *Corynebacterium striatum*

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**Conflicts of Interests**

The authors have no financial conflicts of interest.

**Author Contributions**

Conceptualization: Lee SH, Kim WH; Data curation: Lee JY, Lee SH; Formal analysis: Lee SH; Investigation: Lee JY, Lee SH; Methodology: Lee SH, Kim WH; Project

A 54-year-old man presented with generalized weakness for a week. His blood pressure was 162/62 mmHg, heart rate 100 beats/min, and body temperature 37.2°C. One month ago, he started hemodialysis using a permanent catheter at another hospital but was lost to follow-up after discharge. Three weeks later, he visited our hospital without the catheter and described that it was removed by itself. After resumption of hemodialysis, fever up to 38.3°C developed. Serial blood cultures sampled from peripheral veins isolated *Corynebacterium striatum*.

Transesophageal echocardiography (TEE) was performed because transthoracic study demonstrated vegetations on the mitral valve (MV), aortic valve (AV), and tricuspid valve (TV) with severe aortic and moderate tricuspid regurgitations. Three-dimensional (3D) TEE showed multiple vegetations on the anterior and posterior MV leaflets, on the left, right, and non-coronary AV cusps, and on the 3 TV leaflets (**Figure 1A, Supplementary Video 1**). Large vegetations with severely destructed leaflets of the three valves were found in the operative field (**Figure 1B**). The valves were replaced with mechanical prostheses. Symptomatic sick sinus syndrome developed after surgery and permanent pacemaker was implanted.

*C. striatum* is an aerobic, Gram-positive bacillus that has been emerging as a nosocomial opportunistic pathogen<sup>(1,2)</sup> and can rarely be associated with native valve endocarditis.<sup>(3)</sup> In this case with poor medical compliance, a dialysis catheter was thought to result in *C. striatum* endocarditis with severe, disastrous destruction of the three cardiac valves requiring valvular replacement. 3D TEE can be helpful for meticulous evaluation of valvular morphology and function in patients with *C. striatum* endocarditis.

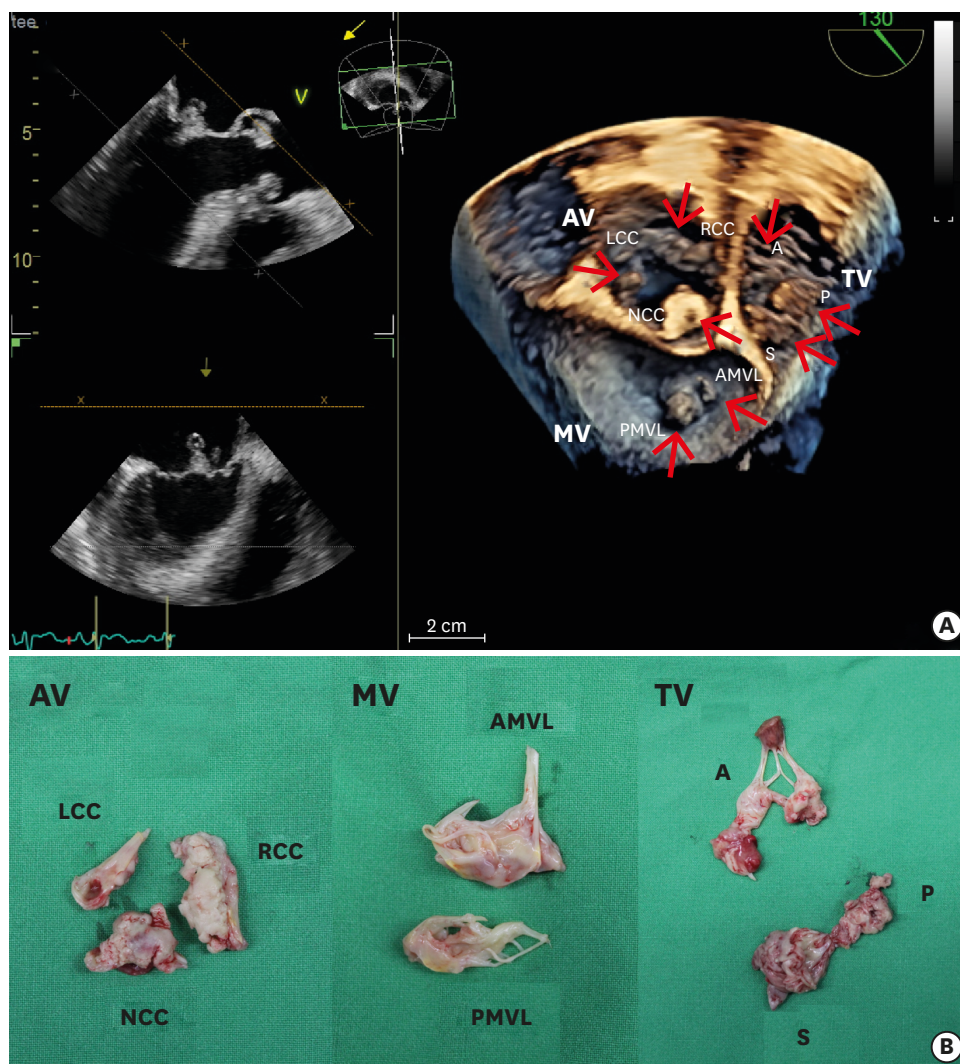
## SUPPLEMENTARY MATERIAL

### Supplementary Video 1

Three-dimensional transesophageal echocardiography showing multiple vegetations on the all cusps of the AV, MV, and TV.

[Click here to view](#)

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**Figure 1.** (A) The 10×8 mm-sized and 15×7 mm-sized vegetations (arrows) on AMVL and PMVL, respectively. A 13×9 mm-sized, a 21×8 mm-sized, and a 14×11 mm-sized vegetations on the LCC, RCC, and NCC of the AV, and 10 to 22 mm-sized multiple vegetations in diameter were also found on the 3 leaflets of the TV. (B) Surgically resected AV, MV, and TV showing severe destruction with multiple vegetations.

A = anterior leaflet; AMVL = anterior mitral valve leaflet; AV = aortic valve; LCC = left coronary cusp; MV = mitral valve; NCC = non-coronary cusp; P = posterior leaflet; PMVL = posterior mitral valve leaflet; RCC = right coronary cusp; S = septal leaflet; TV = tricuspid valve.

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