

Case Image

A case of infective endocarditis in which vegetation was detected by contrast-enhanced CT

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A 79-year-old man presented to our emergency department with a fever for 5 days. Emergent coronary angiography, prompted by ST elevation on electrocardiography, revealed small diffuse emboli in the coronary arteries. Despite suspecting infective endocarditis (IE), transthoracic echocardiography did not reveal vegetation. Contrast-enhanced 64-slice multidetector row computed tomography (CT) showed multiple emboli in the kidneys and spleen, incidentally detecting features suggestive of vegetation around the aortic valves. This prompted a transesophageal echocardiography to be performed. Vegetation was then visualized (Fig. 1; Table S1), and blood culture results were positive for *Staphylococcus aureus*. Definite IE was diagnosed. Despite antibiotic treatment and surgical vegetectomy (Fig. S1), the patient died from multiple organ failure on day 59 of hospitalization.

To diagnose IE, endocardial involvement such as vegetation must be identified with echocardiography. However, the sensitivity of transthoracic echocardiography is suboptimal, and because transesophageal echocardiography is moderately invasive, high clinical suspicion is needed.¹ In this case, contrast-enhanced CT was performed to assess the cause of fever, which visualized vegetation and prompted a transesophageal echocardiography. Although previous

observational studies reported cardiac CT to visualize vegetation, literature describing the value of non-cardiac contrast-enhanced CT is scarce.² The development of modern CT technology has enabled the visualization of vegetation even by non-cardiac CT. Although we should not overly rely on CT, contrast-enhanced CT may play an adjunctive role in detecting vegetation in some cases.

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DISCLOSURE

INFORMED CONSENT: WRITTEN informed consent was obtained from the patient's family for the publication.

Registry and Registration No. of the trial: Not applicable.

Animal studies: Not applicable.

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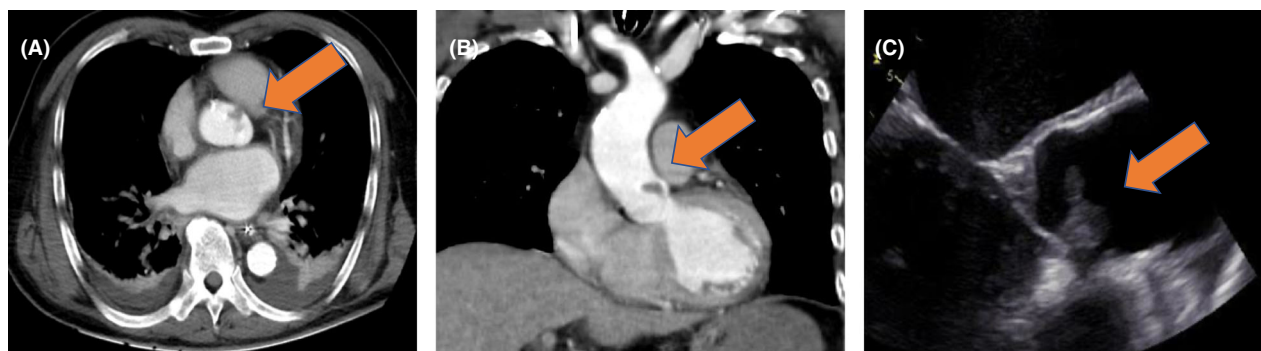


Fig. 1. The vegetation found by contrast-enhanced computed tomography and transesophageal echocardiography.

AUTHOR CONTRIBUTIONS

S.N. AND K.M. wrote the original manuscript. T.N., M.S., Y.N., K.H., R.N., and S.K. helped during the drafting and revising of the article. All authors read and approved the final manuscript.

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SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Fig. S1. Operative findings.

Table S1. Equipment and protocol of computed tomography scanning.