

## Images in Cardiovascular Disease



# Pneumococcal Endocarditis Presenting as Sinus Arrest

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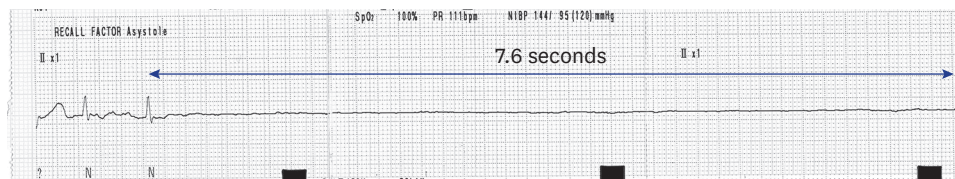
#### Conflict of Interest

The authors have no financial conflicts of  
interest.

A 76-year-old man with recurrent syncope and a history of bioprosthetic aortic valve (AV) replacement 8 years prior was transferred to the emergency department. On presentation, electrocardiogram showed sinus arrest with a seizure-like movement; thus, a temporary pacemaker was implanted (**Figure 1**). Radiography showed pulmonary infiltrates, and blood culture results showed *Streptococcus pneumoniae* infection (**Figure 2**). Serial transthoracic echocardiography showed only valvular leaflet thickening. Transesophageal echocardiography was then attempted several times, but failed.

Intracardiac echocardiography (ICE) was attempted to establish a prompt diagnosis and institute appropriate treatment. A ICE probe (ViewFlex Xtra; Abbott, Abbott Park, IL, USA) was advanced into the right ventricular outflow tract, where two oscillating vegetations were shown attached to the leaflets of the AV and the perivalvular aortic root fluid (**Figure 3, Movie 1**). All these findings are consistent with complicated infective endocarditis (IE). The patient was referred for urgent surgery, where drainage of the perivalvular aortic root abscess and subsequent replacement of the infected bioprosthetic valve were performed. The patient improved and was eventually discharged without a pacemaker.

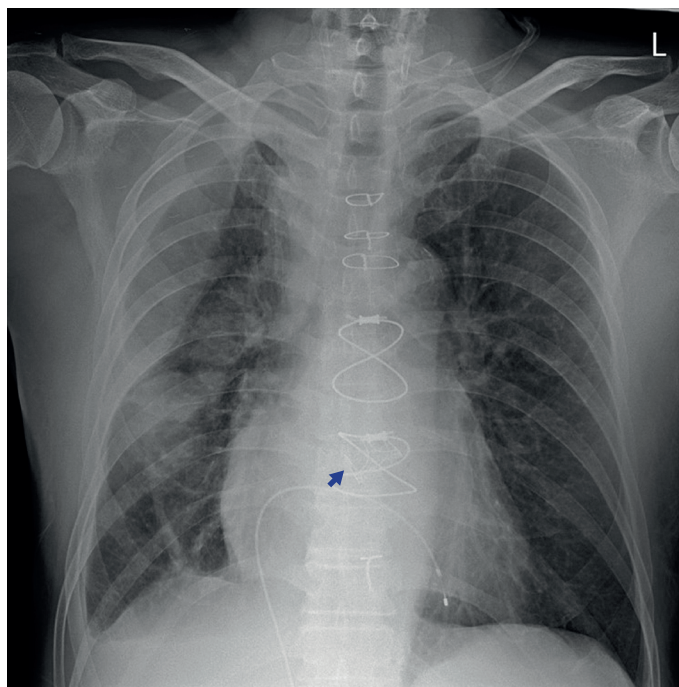
Pneumococcal endocarditis is a rare and fatal disease.<sup>1)</sup> It has a predilection for the AV, which causing atrioventricular block has rarely been reported, but there are no described cases of sinus arrest.<sup>2)</sup> Conventional echocardiography may be challenging in patients with suspected prosthetic valve endocarditis and this case illustrates ICE as an alternative diagnostic imaging modality.<sup>3)</sup> Written informed consent was obtained, which was approved by the Institutional Review Board of the Chosun University Hospital (CHOSUN 2021-07-005).



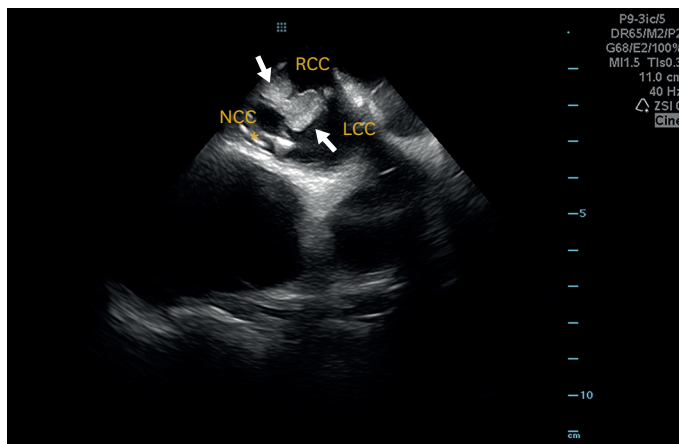
**Figure 1.** Single-lead electrocardiogram showed sinus arrest (7.6 seconds).

**Author Contributions**

Conceptualization: Seo JW, Kim SS, Kim HK, Jeong JH; Data curation: Seo JW, Kim SS, Kim HK, Jeong JH; Formal analysis: Seo JW, Kim SS, Kim HK, Jeong JH; Funding acquisition: Kim SS, Kim HK; Investigation: Seo JW, Kim SS, Kim HK, Jeong JH; Methodology: Seo JW, Kim SS, Kim HK, Jeong JH; Project administration: Seo JW, Kim SS, Kim HK, Jeong JH; Resources: Seo JW, Kim SS, Kim HK; Software: Seo JW, Kim SS, Kim HK; Supervision: Seo JW, Kim SS, Kim HK; Validation: Seo JW, Kim SS, Kim HK; Visualization: Seo JW, Kim SS, Kim HK; Writing - original draft: Kim SS; Writing - review & editing: Kim SS.



**Figure 2.** Chest X-ray image. Radiography showed pulmonary infiltrates in the right middle lung field and pleural effusion. Temporary pacemaker lead and bioprosthetic aortic valve (arrow) were seen.



**Figure 3.** Intracardiac echocardiography showed 2 oscillating mobile vegetations attached to the leaflets of the aortic bioprosthetic valve and the perivalvular aortic root fluid (asterisk). LCC: left coronary cusp, NCC: non coronary cusp, RCC: right coronary cusp.

**SUPPLEMENTARY MATERIAL****Movie 1**

Intracardiac echocardiography.

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