

Editorial



Early Testing and Prompt Initiation of Proper Treatment: a Clever Strategy to Fight with Tuberculosis Pericarditis

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Conflict of Interest

The authors have no financial conflicts of interest.

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► See the article “The Clinical Course of Tuberculous Pericarditis in Immunocompetent Hosts Based on Serial Echocardiography” in volume 50 on page 599.

Constrictive pericarditis can occur as a sequela of various pericardial diseases such as idiopathic, viral, post-cardiac surgery, post-radiation therapy, or post-infectious causes.¹⁾²⁾ Although post-infectious causes, including tuberculosis pericarditis or bacterial pericarditis, are not common in the developed countries, tuberculosis pericarditis due to *Mycobacterium tuberculosis* remains as one of the leading causes of constrictive pericarditis in the East Asian countries, even in immunocompetent hosts.³⁾⁴⁾ A growing body of evidence of tuberculosis pericarditis, regarding the clinical course, treatment strategies such as steroid treatment or surgical treatment timing, has been accumulated from immunocompromised patients. On the other hand, there is still a lack of data regarding the clinical course, diagnosis method, and treatment strategies of tuberculosis pericarditis in immunocompetent hosts.²⁾

In this issue of the *Korean Circulation Journal*, Kim and colleagues⁵⁾ sought to assess the clinical course of tuberculous pericarditis with comprehensive echocardiographic evaluation during the treatment with a standardized anti-tuberculosis regimen and steroid in immunocompetent patients in a single-center retrospective cohort. Notably, constrictive physiology due to tuberculous pericarditis at the time of initial diagnosis was normalized in 80% of patients with proper antituberculosis treatment with steroid regimen. Further, the authors categorized patients into three groups, including effusion only, effusive constrictive pericarditis, and constrictive pericarditis group at the time of initial diagnosis. Constrictive pericarditis remained only in 3% of the patients who were initially diagnosed as an effusion only group. Conversely, in patients who initially presented with constrictive pericarditis, 18% ended up with remaining constrictive pericarditis even after treatment with the standard regimen including steroid treatment.

First, in the study of Kim et al.,⁵⁾ it must be mentioned that the overall incidence of progression to constrictive pericarditis after tuberculosis pericarditis is lower than those with previously reported, even in the patient group with initially diagnosed constrictive pericarditis. In previous studies, constrictive pericarditis occurred in 20% to 60% of Tuberculous pericarditis patients, despite the use of antituberculosis regimen including corticosteroids.⁶⁾ The lower incidence of constrictive pericarditis might be associated with the difference in the study population. Unlike the previous studies that included human immunodeficiency virus (HIV) infected population, Kim and colleagues' study only included

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HIV uninfected patients. However, given the previous literature that demonstrated the incidence of pericardial constriction being reduced in HIV-infected individuals,^{7,8)} a better explanation would be needed to describe the differences.

The essential factor that contributed to the low progression to constrictive pericarditis would be the early diagnosis of Tuberculous pericarditis in suspected patients in this study. As Kim and colleagues presented,⁵⁾ the application of proper antituberculosis treatment with steroid in an effusion only status would reduce the disease progression to constrictive pericarditis more successfully, compared with those who already have a feature of constriction. Most of the previous studies that demonstrated an increased rate of progression to constrictive pericarditis were done in countries with limited access to sophisticated imaging studies. Conversely, the current study was done in a tertiary center in South Korea, which has an affordable national medical insurance system and substantial accessibility to medical services.

Lastly, the study showed that the echocardiographic evaluation of tuberculous pericarditis is crucial in mitigating the course of the disease. The echocardiographic evaluation included not only an early accurate diagnosis of the presence of pericardial effusion but also a determination of constrictive physiology using various parameters, such as ventricular interdependency, tissue doppler parameters to track myocardial movement, and expiratory diastolic hepatic vein reversal flow.⁹⁾ This sophisticated echocardiographic evaluation allows the exclusion of other cardiac disease mimicking tuberculous pericarditis symptoms.¹⁰⁾ Further, the early detection and serial follow-up of constrictive physiology enable prompt initiation of the antituberculosis regimen with steroid treatment to prevent progression to constrictive pericarditis.¹¹⁾

In summary, with tuberculosis pericarditis being a fatal disease without proper antituberculosis chemotherapy, Kim et al.⁵⁾ demonstrated important echocardiographic and treatment factors to develop a more clever strategy against this infectious disease to reduce not only mortality but also sequelae: early diagnosis and prompt initiation of antituberculosis treatment with steroid regimen. This strategy might be applied to individuals with suspected symptoms in tuberculosis endemic areas and immunosuppressive patients. A future multicenter, prospective study with a larger population would be encouraged to validate the current strategy.

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