

A case of large vegetation present only at the pulmonary valve

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Abstract

We report the case of a 72-year-old man with pulmonary valve infective endocarditis, who complained of general malaise for 10 days. He was afebrile but there was no murmur. However, computed tomography showed a large mobile mass attached to the pulmonary valve, and echocardiography showed the same mass attached to the pulmonary valve but not to other valves. We needed to distinguish between vegetation, thrombus, and tumor. After a positive blood culture result, antibiotic treatment was started, but the mass increased in size since the time of hospitalization. We decided to remove the mass. Resection of the vegetation and pulmonary valve replacement were performed 11 days after hospitalization. After antibiotic treatment, the patient was discharged on postoperative day 30. This is a rare case in which infective endocarditis presented only at the pulmonary valve.

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Running head: Pulmonary valve infective endocarditis

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Abstract :

We report the case of a 72-year-old man with pulmonary valve infective endocarditis, who complained of general malaise for 10 days. He was afebrile but there was no murmur. However, computed tomography showed a large mobile mass attached to the pulmonary valve, and echocardiography showed the same mass

attached to the pulmonary valve but not to other valves. We needed to distinguish between vegetation, thrombus, and tumor. After a positive blood culture result, antibiotic treatment was started, but the mass increased in size since the time of hospitalization. We decided to remove the mass. Resection of the vegetation and pulmonary valve replacement were performed 11 days after hospitalization. After antibiotic treatment, the patient was discharged on postoperative day 30. This is a rare case in which infective endocarditis presented only at the pulmonary valve.

KEYWORDS

pulmonary valve, infective endocarditis, surgery

INTRODUCTION

Infective endocarditis (IE) usually involves the left-sided valves. Right-sided IE accounts for 5%-10% of total IE.¹ Right-sided IE presents mainly at the tricuspid valve. IE presented only at the pulmonary valve is exceedingly rare. There is little information about right-sided IE, especially IE presenting at the pulmonary valve. We present a rare case of right-sided IE presenting only at the pulmonary valve and mimicking thrombus or tumor.

CASE PRESENTATION

A 72-year-old man presented to the emergency department with a history of general malaise for the past 10 days. He was afebrile and there were no obvious physical findings, including murmur. However, contrast computed tomography showed a large mass near the pulmonary valve and a small pulmonary thromboembolism (Figure 1). Echocardiography detected a large mobile mass attached to the pulmonary valve but not to the other valves (Figure 2). The mass was 25 mm in diameter by echocardiography and could have been a tumor, vegetation, or thrombus, but the next day it was identified as vegetation because of the positive blood culture.

Antibiotics (CTRX 2gq24hr and ABPC/SBT 3gq6hr) were administered and resulted in fever alleviation. However, the vegetation continued to increase in size, as revealed by echocardiography 5 days later. Therefore, we decided to undergo vegetation resection (Figure 3) and pulmonary valve replacement with patch occlusion 11 days after hospitalization. After surgery, the patient was administered intravenous penicillin G for 4 weeks and was discharged on postoperative day 30 without recurrence.

DISCUSSION

According to literature, there are four causes of right-sided IE: intravenous drug use, cardiac device related, congenital heart disease, or unknown. In this case, there was no obvious cause, and we concluded that the cause was unknown. The patient did not have chronic kidney disease, diabetes mellitus, or cancer. At present, the details of the cause remain unknown.

The most frequent causative agent of IE is *Staphylococcus aureus*, including methicillin-resistant *Staphylococcus aureus*.² In the present case, the cause of IE was *Streptococcus bovis*. The patient was administered *Streptococcus bovis*-sensitive penicillin G for 4 weeks after surgery. Ortiz et al. reported that in-hospital mortality of three cases of IE was 30%.³ There is little information about the detailed treatment of right-sided IE in literature. There have been several studies of small numbers of cases of right-sided IE. Hamza et al. reported that the mortality of isolated pulmonary valve IE was 22%. Mortality was higher with medical treatment than with surgery (32% vs 14%).⁴ Vegetation size seems to have prognostic implications. Okonta et al. reported that vegetation size > 20 mm in right-sided IE was associated with higher mortality than vegetation size ≤ 20 mm (33% vs 1.3%, $P < 0.001$).⁵ As the size of the vegetation in the present case was already 25 mm at the time of hospitalization, surgery should have been recommended at the beginning. However, because the vegetation was increasing in size, the treatment was changed to surgery 11 days after hospitalization, and the patient was successfully discharged from the hospital with a favorable prognosis.

CONCLUSIONS

We should pay attention to the presence of a vegetation without a murmur, such as one occurring only at the pulmonary valve. A large mass at hospitalization or increasing in size should be considered for early surgery.

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests

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Figure legends

Figure 1 (Left) The moss appeared at the height of the pulmonary valve. (Right) The emboli trapped in the pulmonary artery.

Figure 2 A large mobile mass attached to the pulmonary valve (arrow).

Figure 3 Pulmonary valve and vegetation removed during surgery.



