

Infective endocarditis presenting as back pain

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Abstract: A 51-year-old healthy man presented to emergency department with complaints of severe low back pain for 3 days and 2-week history of low-grade fever. Because of persistent back pain with fever up to 38 °C, we ordered contrast-enhanced abdominal computed tomography (CT) which showed a huge aortic thrombus at the level of aortic bifurcation. Transthoracic two-dimensional echocardiography showed a vegetation at anteromedial leaflet of mitral valve, and infective endocarditis (IE) was diagnosed. After long-term broad-spectrum antibiotics and arterial embolectomy with mitral valve replacement, he discharged uneventually. Early diagnosis and treatment of IE at emergency department may be the key to the better result.

Keywords: Infective endocarditis (IE); back pain; low-grade fever; aortic thrombus

Received: 28 June 2018; Accepted: 17 July 2018; Published: 01 August 2018.

doi: 10.21037/ht.2018.07.01

View this article at: <http://dx.doi.org/10.21037/ht.2018.07.01>

Introduction

Low back pain is a common and nonspecific complaint including many differential diagnoses at emergency department. Systemic embolization is an unfortunate sequel of infective endocarditis (IE) that can occur despite an appropriate therapy. We present a low back pain patient cause by IE complicated abdominal aortic emboli.

Case presentation

A 51-year-old healthy man presented to emergency department with complaints of severe low back pain for 3 days. He reported a 2-week history of low-grade fever but denied any cough, diarrhea or urinary frequency. His vital signs were normal except body temperature of 37.6 °C on arrival. Physical examination revealed only a grade 3/6 systolic murmur, neither peritonitis nor flank knocking pain. Laboratory data showed a white cell count of 14,100/uL, hemoglobin of 11.1 g/dL, microhematuria of RBC 48 cells/HPF and C-reactive protein of 15.6 mg/dL, but others were unremarkable. Abdominal computed tomography (CT) with/without contrast was

ordered by an experienced emergency physician because of persistent back pain with fever up to 38 °C, and it showed a huge aortic thrombus at the level of aortic bifurcation (Figures 1,2, arrows). CT angiogram revealed extensive thrombosis from the left iliac artery to femoral arteries. Transthoracic two-dimensional echocardiography showed a vegetation (1.3 cm × 0.9 cm) at anteromedial leaflet of mitral valve (Figure 3), and severe mitral regurgitation. Blood cultures reported *Viridans streptococci*. IE was diagnosed. He was treated successfully with broad-spectrum antibiotics and arterial embolectomy with mitral valve replacement.

Discussion

IE is an infection of the heart valves and often causes valvular vegetations. Clinical presentations of IE are often nonspecific and highly variable. A heart murmur is the most commonly physical finding of IE; extra-cardiac manifestations are due to arterial embolization of fragments of the friable vegetation. Large vegetations on the mitral valve, especially on the anterior leaflet, are associated with a higher risk of embolism. Emboli can occlude essentially any vessel in the systemic or pulmonary arterial circulation.

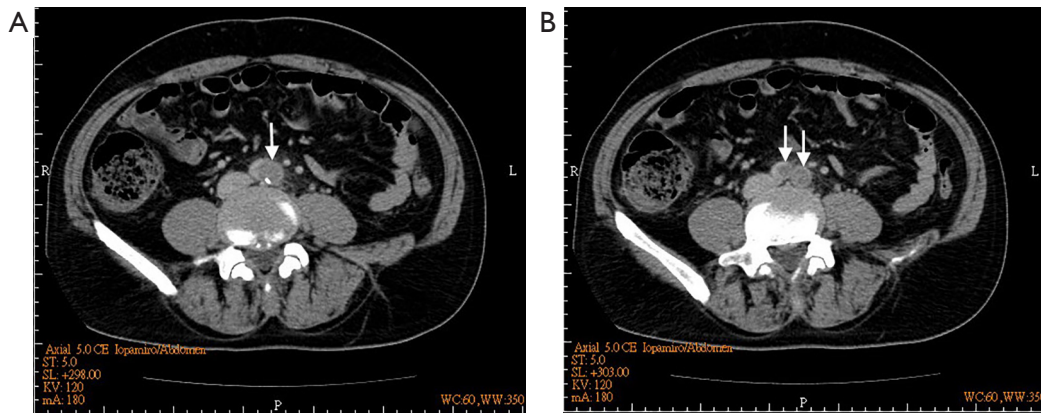


Figure 1 Axial view of contrast-enhanced abdominal computed tomography (CT) showed a huge aortic thrombus at the level of aortic bifurcation (arrows).

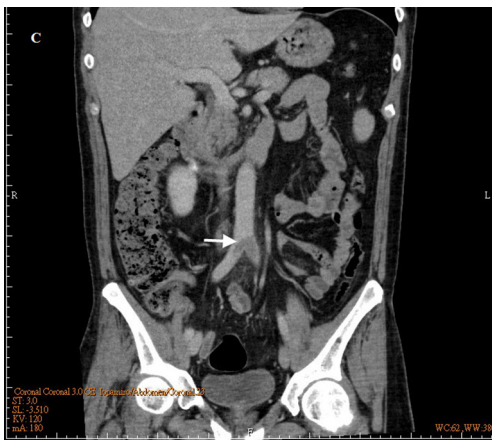


Figure 2 Coronal view of contrast CT showed a huge aortic thrombus at the level of aortic bifurcation (arrow).

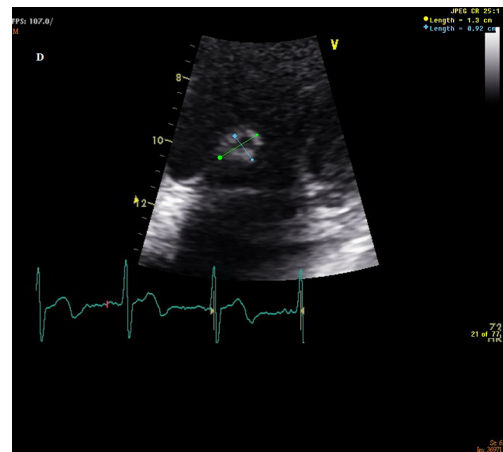


Figure 3 Transthoracic echocardiography showed a vegetation (1.3 cm × 0.9 cm) at anteromedial leaflet of mitral valve.

Systemic embolization most commonly occurs in left-sided IE; pulmonic embolization most commonly occurs in right-sided IE. Systemic embolization occurs in 22% to 50% of IE patients; emboli may involve major arteries, mostly affecting the central nervous system, but also other organs (1). Embolization to any major arteries contributing to any symptoms may occur; however, persistent low back pain caused by abdominal aortic emboli has never been reported. Current diagnostic criteria of IE include a careful clinical observation, blood culture and echocardiography (2). Contrast-enhanced CT is a useful tool for evaluation of systemic embolization (3). Successful treatments include early and prolonged antimicrobial

therapy, and valve-replacement surgery if necessary (1).

Acknowledgements

None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Informed Consent: Written informed consent was obtained from the patient for publication of this manuscript and any

accompanying images.

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doi: 10.21037/ht.2018.07.01

Cite this article as: Lin YH, Chang WH, Tsai W, Chien DK. Infective endocarditis presenting as back pain. *Health Technol* 2018;2:3.