

Infective Endocarditis presented as Acute Pyelonephritis
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ABSTRACT

Infective endocarditis is less likely to sparkle out preferentially in our mind when evaluating and making differential diagnosis of fever patients daily in emergency department. We describe a case of infective endocarditis. He was initially diagnosed with pyelonephritis of right kidney at a hospital because of noted right flank knocking pain. His computed tomography showed two wedge shaped low density lesions in the spleen and right kidney, separately. It dropped a hint to the emergency department physician of thinking of feature of infarct. The previously neglected cardiac murmurs were then an important clue. We then performed transthoracic emergent echocardiography and confirmed the diagnosis of infective endocarditis.

Keywords: Emergency department, diagnosis, fever

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INTRODUCTION

Fever is a common complaint in patients presenting to an emergency department. We presented a case of infective endocarditis, which had been mistakenly diagnosed as acute pyelonephritis and underwent partial treatment. Infective endocarditis is more prevalent in injection drug users and in the elderly. Comprehensive and careful physical examination would be the key to awake physicians this tentative impression and to arrange further immediately image studies and even surgical interventions.

CASE REPORT

A 62-year old male patient with the history of benign prostatic hyperplasia was admitted at our hospital because of suffering from fever, on and off for approximately two weeks. Initially, he was diagnosed with pyelonephritis of right kidney at a hospital because of noted right flank knocking pain. However, after administrating empiric antibiotics, the fever persisted. At the arrival at our hospital for emergency care, the patient had a blood pressure of 96/61 mmHg, a pulse of 98 beats per minute and a temperature of 38.2 °C.

Physical examination revealed the abdomen was soft and nontender, with the right flank knocking pain. The laboratory serum tests reported a high CRP (11.3 mg/dL), normal renal function (Cr 1.04 mg/dL), anaemia (Hb8.3 g/dL) and thrombopenia (plt 150 000/ul), but a high-normal WBC (10500/ul, N-seg 90.9%). His serum glucose test was 150 mg/dL. The Urinalysis had microscopic hematuria without pyuria. After a sepsis work-up, he was admitted to hospital under the impression of acute pyelonephritis and underwent partial treatment. Soon after being admitted, he complained a new onset of left flank pain and further image studies were arranged for him.

Abdominal ultrasonography showed a hypoechoic area in the spleen. A computed tomography also showed two wedge shaped low density lesions in the spleen and right kidney (Fig. 1).



Fig: 1. Two low perfusion area, separately in spleen and right kidney noted in the coronal view of abdominal computer tomography with contrast.

It was thought to be a feature of infarct. The previously neglected cardiac murmurs were then an important clue. Under the suspicion of septic emboli, we arranged the transthoracic echocardiography to trace the possible source of emboli (Fig. 2). Shaggy mitral valves at anterior and posterior leaflets and prominent regurgitation confirmed the diagnosis of infective endocarditis. Despite intravenous antibiotics treatment was begun immediately, the critical intracranial haemorrhage *via* suspected mycotic aneurysm ruptured before performing surgical intervention.

Infective Endocarditis

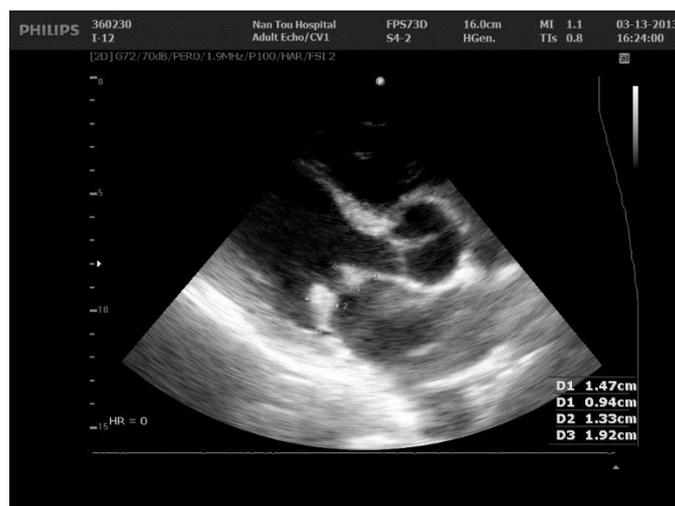
Figure 2. Transthoracic echocardiography shows: (2a) shaggy mitral valves about 1.14x1.47 cm at AML (arterial mitral leaflet) area, (2b); and (2c) vegetation in parasternal long axis view.



Fig: 2A. Shaggy mitral valves about 1.14 x1.47 cm at AML (arterial mitral leaflet) area.



2B: Shaggy mitral valves about 1.91 x1.24 cm at PML (posterior mitral leaflet) area in apical four chamber view.



2C: Vegetation in parasternal long axis view.

DISCUSSION

Pneumonia, urinary tract infection, and biliary tract infection *etc* are common causes for emergency care. Infective endocarditis is less likely to sparkle out preferentially in our mind in emergency department. The incidence of infective endocarditis ranged from 5.0 to 7.9 cases per 100 000 person-years in a Minnesota study, with an increasing trend over time (1). Lee CH *et al* reported a mean annual crude incidence of 7.6 per 100 000 people in Taiwanese adults involving native valves (2). Injection drug users and the elderly are at a higher risk of infective endocarditis (3). It might be related to the decreased incidence of rheumatic heart disease in younger population and high prevalence of degenerative valve diseases in the elderly.

Although Duke Criteria have expected 80% sensitivity and specificity for the diagnosis of infective endocarditis (4), it depends mainly on the basis of blood cultures and echocardiography. Both blood cultures and echocardiography results are not easily available soon in emergency department. Fever with multiple septic emboli among different anatomy areas may be the hint of vascular implication of infective endocarditis.

Infective Endocarditis

Physicians practicing emergency cares should be aware of the high risk of neurologic complications associated infective endocarditis and interpret it to patients and relatives. After infective endocarditis is confirmed and with surgical consultation, urgent and emergent surgery should be evaluate immediately (5).

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