

# A life-threatening complication of an ordinary urinary tract infection?

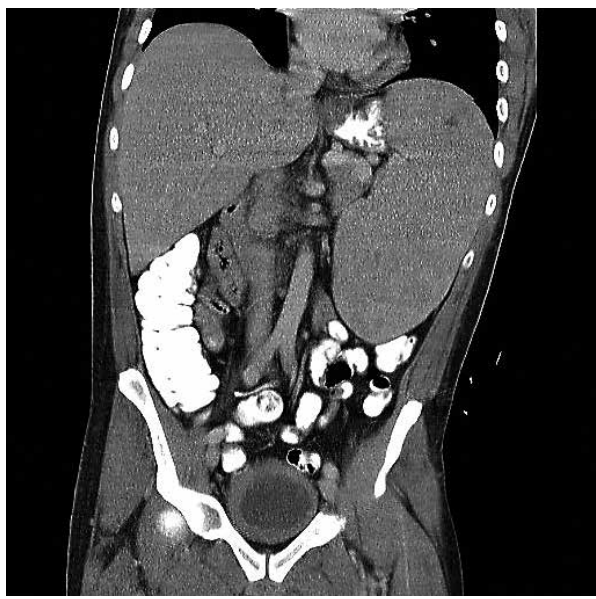
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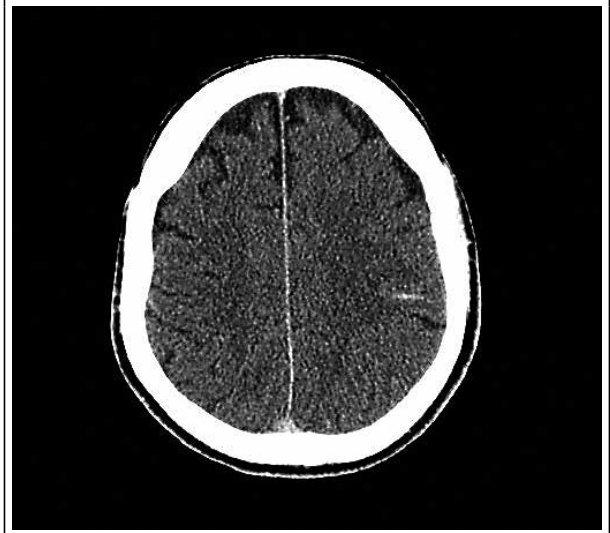
## CASE REPORT

A 42-year-old man with no medical history, besides lower back pain for eight months, was referred to our emergency department with complaints of dysarthria and confusion since one week and eight kilograms of weight loss in the last few months. On physical examination, we saw a weak and neglected patient with a blood pressure of 100/50 mmHg, heart rate of 110 beats/min and a temperature of 37.9 °C. A grade II/VI holosystolic heart murmur was heard along the right sternal border and the spleen was palpated 10 cm under the costal margin. Laboratory findings demonstrated hyponatraemia (122 mmol/l), a serum creatinine of 131 µmol/l, a raised C-reactive protein of 167 mg/l, elevated liver enzymes with cholestasis (total bilirubin 80 µmol/l), haemolytic anaemia (haemoglobin level 5.9 mmol/l, haptoglobin < 0.1 g/l), normal leukocyte count ( $9.0 \times 10^9$ /l) and thrombocytopenia ( $29 \times 10^9$ /l).

**Figure 1.** Abdominal CT demonstrating splenomegaly with multiple hypodense lesions and bladder wall thickening



**Figure 2.** Cerebral CT showing a small area of infarction in the frontal lobe



The electrocardiography (ECG) was normal. A computed tomography (CT) scan of the abdomen was performed and showed splenomegaly with multiple hypodense lesions (*figure 1*) and thickening of the urinary bladder wall. An additional CT scan of the brain showed a small infarction in the frontal lobe (*figure 2*). Three sets of blood cultures at different times and an urine culture were taken. The patient was admitted to the intensive care unit because of haemodynamic instability. Treatment consisted of fluid resuscitation, inotropes and broad spectrum antibiotics (flucloxacillin and ceftazidime). A Gram stain of positive blood cultures showed Gram-positive cocci arranged in clusters.

## WHAT IS YOUR DIAGNOSIS?

See page 505 for the answer to this photo quiz.

## DIAGNOSIS

A transthoracic echocardiography showed thickening of the aortic valve cusps and a central vegetation. All blood cultures came out positive for *Aerococcus urinae*. A diagnosis of infective endocarditis due to *A. urinae*, with septic embolisation to the brain and spleen, was made. The antibiotic treatment was switched to high-dose penicillin 12 million units/day and gentamicin 3 mg/kg/day intravenously.

Infective endocarditis is a severe disease with a high mortality rate. It may be overlooked due to highly variable clinical manifestations. Early recognition of the disease and identification of the responsible pathogen are essential for starting appropriate treatment and to avert severe complications. Our patient had an unusual pathogen of infective endocarditis. Aerococci resemble staphylococci by morphology but have the biochemical and growth characteristics of streptococci and enterococci. *A. urinae* is considered to be a microorganism of low pathogenicity and is more known as a causative organism of urinary tract infections. Publications of severe and sometimes fatal infections with *A. urinae* exist, especially in the case of infective endocarditis.<sup>1,2</sup> Conditions predisposing patients to infections with this organism are being over the age of 65, being male and urinary tract pathology such as stricture, prostatic hyperplasia or prior surgery.<sup>3</sup>

$\beta$ -lactam antibiotics, especially penicillin, are the preferred antibiotic treatment. Adding an aminoglycoside could be beneficial in severe cases.<sup>4</sup> This is not very different from the antibiotics of choice for endocarditis of other aetiology. Urological evaluation of our patient, because of the bladder wall thickening and the known correlation of *A. urinae* with underlying urological conditions, revealed no such disease. Two days after the diagnosis the patient underwent surgical aortic valve replacement. Penicillin was continued for six weeks. The patient made a full recovery.

## REFERENCES

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