

First report of infective endocarditis caused by *Streptococcus pseudoporcinus* in Vietnam

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Abstract

We report a first case of *Streptococcus pseudoporcinus* bacteraemia causing infective endocarditis in a 40-year-old man in Vietnam. This is the second case of *Streptococcus pseudoporcinus* infective endocarditis in the literature. The patient was successfully treated by antibiotics, combined with aortic valve replacement. *Streptococcus pseudoporcinus* may be an emerging infectious agent causing endocarditis.

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Case report

A 40-year-old previously healthy man admitted to 108 Military Central Hospital in Vietnam with a 1-month history of high-grade fever, up to 40°C, and weight loss of 7 kg over 1 month. He denied chills, shortness of breath, nausea, diarrhoea, or genitourinary complaints.

On admission, observations were temperature 38°C, heart rate 106 beats/minute, blood pressure 118/55 mmHg, respiratory rate 18 breaths/minute and oxygen saturation 98% in room air. On physical examination, the heart auscultation revealed a diastolic murmur in the aortic area, and the lungs were clear to auscultation bilaterally. He had no rash in the skin. The rest of his physical examination was unremarkable.

The laboratory test revealed a white blood cell count of $12.1 \times 10^6/L$ with 78.1% neutrophils, procalcitonin of 0.249 ng/mL, haemoglobin of 125 g/L and platelets of $205 \times 10^9/L$. The other laboratory tests were unremarkable. A transthoracic and

transoesophageal echocardiogram showed severe aortic regurgitation with a 4- to 5-mm vegetation on the aortic valve leaflet. The left ventricular systolic function was normal, with an ejection fraction of 73%.

Three sets of blood cultures were taken at 12-h intervals. Species identification was performed using Vitek 2 (bioMérieux, Marcy l'Étoile, France) automated blood identification system. Intravenous cefoperazom/sulbactam 2 g twice daily was started empirically. The blood culture results were positive for *Streptococcus pseudoporcinus*. Subsequently, the antibiotic was switched to intravenous cefepime 6 g per day plus ofloxacin 400 mg per day according to the antibiogram for 40 days (Table 1). After starting antibiotics, his symptoms were improved with resolving fever and negative blood culture. He successfully underwent mechanical aortic valve replacement 4 weeks later and was discharged home in good clinical condition.

Streptococcus pseudoporcinus is a β -haemolytic streptococcus that was first identified in 2006 [1]. It is mostly associated with genitourinary tract infections in women [1,2]. Stoner et al. showed that the colonization of healthy individuals by *S. pseudoporcinus* is not rare [2]. However, rare cases of *S. pseudoporcinus* bacteraemia have been recognized. In a 14-month prospective observational study in Thailand, there were no cases of *S. pseudoporcinus* infection isolated from blood [3]. Shewmaker et al. reported five cases of bacteraemia caused by

TABLE 1. Antimicrobial susceptibilities of *Streptococcus pseudoporcinus* isolate obtained from a 40-year-old man

| Antibiotic | Results |
|-----------------------------|-----------|
| Cefepim | Sensitive |
| Amoxicillin/Clavulanic acid | Sensitive |
| Ofloxacin | Sensitive |
| Vancomycin | Sensitive |
| Erythromycin | Sensitive |
| Linezolid | Sensitive |
| Clindamycin | Sensitive |
| Ceftazidime | Sensitive |
| Chloramphenicol | Sensitive |
| Ciprofloxacin | Sensitive |

S. pseudoporcinus [4]. *Streptococcus pseudoporcinus* is a rare organism causing infective endocarditis. In literature, only one case of infective endocarditis by *S. pseudoporcinus* was reported [5].

Management of infective endocarditis is multidisciplinary including antibiotic treatment, surgery management and medical management. Antibiotics are the first choice in the management of bacterial infective endocarditis. Valve replacement is delayed until the infection conditions have been improved. Most *S. pseudoporcinus* isolates are susceptible to many antibiotics, including penicillin, cefepime, erythromycin, clindamycin and vancomycin [4,6–8] and resistant to tetracycline [4]. The risk factors for *S. pseudoporcinus* bacteraemia are unknown.

The individual described here presented with *S. pseudoporcinus* bacteraemia and aortic valve endocarditis, and was treated successfully with antibiotics—cefepime plus ofloxacin—combined with aortic valve replacement. *Streptococcus pseudoporcinus* may be an emerging cause of infective endocarditis.

Conflict of interest

None.

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