A Case of *Streptococcus thoraltensis* Bacteremia and Prosthetic Valve Endocarditis in a 68-Year-Old Vietnamese Man

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**Conflict of interest:** None declared

**Patient:** Male, 68-year-old  
**Final Diagnosis:** Infective endocarditis  
**Symptoms:** Fever  
**Medication:** —  
**Clinical Procedure:** —  
**Specialty:** Cardiology • Critical Care Medicine • Infectious Diseases

**Objective:** Rare disease  
**Background:** *Streptococcus thoraltensis* is a rare cause of human disease. This report describes a patient with infective endocarditis caused by *S. thoraltensis* and complicated by ischemic stroke.  
**Case Report:** A 68-year-old man was admitted for a 12-day duration of fever. He had a history of severe aortic valve stenosis, for which he underwent prosthetic valve replacement, and type 2 diabetes mellitus. Echocardiography revealed vegetation attached to the right coronary cusp of the prosthetic aortic valve and rupture of the sinus of Valsalva into the right ventricle. Blood cultures were positive for *S. thoraltensis*. He experienced an ischemic stroke involving the vegetation of the aortic valve and died of acute heart failure.  
**Conclusions:** *S. thoraltensis* may be considered an emerging pathogen in patients with infective endocarditis.

**MeSH Keywords:** Communicable Diseases, Emerging • Endocarditis • Sepsis

**Full-text PDF:** [https://www.amjcaserep.com/abstract/index/idArt/925752](https://www.amjcaserep.com/abstract/index/idArt/925752)
Background

*Streptococcus thoraltensis* is an unusual species of streptococci, originally isolated from the intestinal tract of swine [1]. Although rarely isolated from humans, *S. thoraltensis* has been identified in samples from patients with pneumonia, chorioamnionitis, and septicemia [2–4]. The role of *S. thoraltensis* as the pathogenic bacteria in humans remains poorly understood. This report describes a patient with infective endocarditis due to *S. thoraltensis*.

Case Report

A 68-year-old man with a fever for 12 consecutive days and highest body temperature of 39.5°C was admitted to our hospital in Vietnam. He had a history of type 2 diabetes mellitus and aortic valve stenosis, for which he underwent prosthetic valve replacement 2 years earlier. He did not report chest pain, shortness of breath, weight loss, or joint pain. He had not been in recent contact with pigs or rabbits and had not undergone a dental procedure or surgical intervention within 6 months before admission.

On examination, the patient's temperature was 38°C, his heart rate was 80/min, his respiratory rate was 18/min, his blood pressure was 120/70 mmHg, and his oxygen saturation was 92% in room air. A physical examination revealed normal lung sounds and a 3/6 pansystolic murmur at the lower left border of the sternum. The results of other clinical examination were unremarkable.

Initial laboratory analysis showed leukocytosis with a white blood cell (WBC) count of 13.9×10⁹/L, including 92.7% neutrophils, a hemoglobin concentration of 129 g/L, thrombocytopenia with a platelet counts of 138×10⁹/L, including 92.7% neutrophils, a hemoglobin concentration of 129 g/L, thrombocytopenia with a platelet counts of 138×10⁹/L, hyperglycemia with a glucose concentration of 19.1 mmol/L, and a procalcitonin concentration of 0.613 ng/ml.

Transthoracic and transesophageal echocardiography revealed a 12×8 mm vegetation attached to the right coronary cusp of the prosthetic aortic valve and rupture of the sinus of Valsalva. The results of other clinical examination were unremarkable.

| Antibiotics                  | Results  |
|-----------------------------|----------|
| Ceftazidime                 | Sensitive|
| Chloramphenicol             | Sensitive|
| Ceftriaxone                 | Sensitive|
| Vancomycin                  | Intermediate|
| Erythromycin                | Sensitive|
| Ciprofloxacin               | Resistant|
| Levofloxacin                | Sensitive|
| Ofloxacin                   | Sensitive|
| Clindamycin                 | Sensitive|

Seven day later, he experienced sudden left hemiparesis and left facial palsy, with a Glasgow score of 12. Urgent computed tomography of the brain revealed an acute ischemic stroke due to middle cerebral artery M1 occlusion. The patient underwent mechanical thrombectomy successfully. On day 15, he was no longer febrile, his WBC count was 9.9×10⁹/L, with 75.9% neutrophils, and his blood culture was negative.

On day 27, he presented with severe dyspnea, tachycardia, and hypotension. Endotracheal intubation was performed, and he was treated with inotropic agents and diuretics. However, he experienced a sudden cardiac arrest and died on day 30.

Discussion

*S. thoraltensis* is a gram-positive coccus first isolated from the intestinal tracts of swine in 1997 [1]. Although this rare streptococcal species had been detected in human specimens [5,6], its pathogenic role in humans is uncertain.

The first reported human infection with *S. thoraltensis* was in 2015, in a patient with chorioamnionitis who had a father with a history of occupational exposure to pigs [2]. A patient with pneumonia and bacteremia caused by *S. thoraltensis* was reported in 2019 [3], as was a patient with sepsis caused by *S. thoraltensis* [4].

The vegetation in the prosthetic aortic valve of our patient was large, measuring (12×8 mm). Vegetations larger than 10 mm have been reported to increase the risk of embolism, suggesting that a large vegetation is a risk factor for embolic events [7].
*S. thoraltensis* is susceptible to chloramphenicol, clindamycin, erythromycin, levofloxacin, tigecycline, and vancomycin, but resistant to ampicillin, oxacillin, cefotaxime, ceftriaxone, and gentamicin [8,9].

**Conclusions**

*S. thoraltensis* is an animal pathogen rarely seen in humans. *S. thoraltensis* should be considered a rare emerging pathogen that can cause infective endocarditis in humans.

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