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Journal of Microbiology, Immunology and Infection (2015) xx, 1–2

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CORRESPONDENCE

Moraxella osloensis bacteremia complicating with severe pneumonia in a patient with lung cancer

Dear Editor,

Moraxella osloensis is an aerobic, Gram-negative coccobacillus (formerly classified as *Moraxella nonliquefaciens*). The clinical significance and appropriate therapy for patients with *M. osloensis* bacteremia are not well studied. Here, we report a case of a male patient with lung cancer who presented with *M. osloensis* bacteremia complicating with pneumonia. The species was initially identified as *Comamonas testosteroni* using a commercially automated system, and was reidentified as *M. osloensis* using Bruker Biotyper matrix-assisted laser desorption ionization—at the time of flight mass spectrometry (MALDI-TOF MS; Bruker Daltonics, GmbH, Bremen, Germany) and partial 16S ribosomal DNA gene sequencing analysis.

The patient received a diagnosis of lung cancer of the right upper lobe 4 years ago. He suffered from fever and cough for 2 days before admission, and a chest radiograph showed infiltrations of the right lower lobe of the lung (Figure 1). He used a bilateral positive airway pressure ventilator for pneumonia with acute respiratory failure. The laboratory data revealed the results of white blood cells 9070 cells/mL with 83% neutrophils, hemoglobin 11.9 mg/dL, platelets 242,000 cells/mL, serum glucose 254 mg/dL, creatinine 2.34 mg/dL, blood urea nitrogen 18 mg/dL, and C-reactive protein 19.8 mg/dL. The patient received empirical therapy with intravenous cefoperazone/sulbactam 2 g/2 g every 12 hours initially. Four days later, the results of blood culture were identified as *C. testosteroni* using the Phoenix 100 ID/AST system (Becton Dickinson, Sparks, MD, USA). The isolate was presumptively identified as *M. osloensis* (score value 1.848) using Bruker Biotyper MALDI-TOF (Bruker Daltonics). The result of Gram stain of the colonies showed coccobacilli. Sequencing analysis of partial 16S ribosomal DNA gene of the isolate was performed with two primers: 8FPL (5′-AGAGTTTGATCCTGGCTCAG-3′) and 1492 (5′-GGTTACCTTG TTACGACTT-3′). The sequences obtained were compared with published sequences in the GenBank database, using the BLASTN algorithm (http://www.ncbi.nlm.nih.gov/blast). The isolate was identified as *M. osloensis* (accession number KC456542.1) with maximal identity of 100% (858/858 bp).

The antimicrobial susceptibility test showed that the isolate was resistant to cefazolin, cephalexin, penicillin, ampicillin, and amoxicillin/clavulanate, but susceptible to levofloxacin, ciprofloxacin, ceftazidime, cefepime, cefoperazone/sulbactam, amikacin, gentamicin, and carbapenems (doripenem, imipenem, and meropenem) using the Phoenix 100 ID/AST system (Becton Dickinson). The patient was discharged on hospital Day 21 to complete a 14-day course of cefoperazone/sulbactam therapy.

Among the *Moraxella* species, *M. catarrhalis* is the most common isolate of the respiratory tract. *M. osloensis* has been isolated from the respiratory tract, blood, cerebrospinal fluid, and urine.[1,3] Clinical reports of infections caused by *M. osloensis* are rare.[1] *M. osloensis* has been implicated in community-acquired pharyngitis, septic arthritis, meningitis, ophthalmitis, and otitis media.[1–5] Hospital-acquired central venous catheter infections in an elderly woman receiving chronic parenteral nutrition have also been reported.[1,6] Our patient with *M. osloensis* bacteremia complicated with pneumonia is different from previous case reports. *M. osloensis* is often misidentified as *C. testosterone*,[2] and molecular methods may be required to confirm the species identification. The appropriate treatment of bacteremia due to *M. osloensis* has not been well studied. In past decades, *M. osloensis* has been found to be sensitive to penicillin, first-generation cephalosporins, and aminoglycosides.[5] Although, our patient had been resistant to penicillin, amoxicillin/clavulanate, and cefazolin. However, the prognosis for patients with *M. osloensis* infections is generally good.[1–5] Further studies are still

http://dx.doi.org/10.1016/j.jmii.2015.03.005

Please cite this article in press as: Lee W-S, et al., *Moraxella osloensis* bacteremia complicating with severe pneumonia in a patient with lung cancer, Journal of Microbiology, Immunology and Infection (2015), http://dx.doi.org/10.1016/j.jmii.2015.03.005

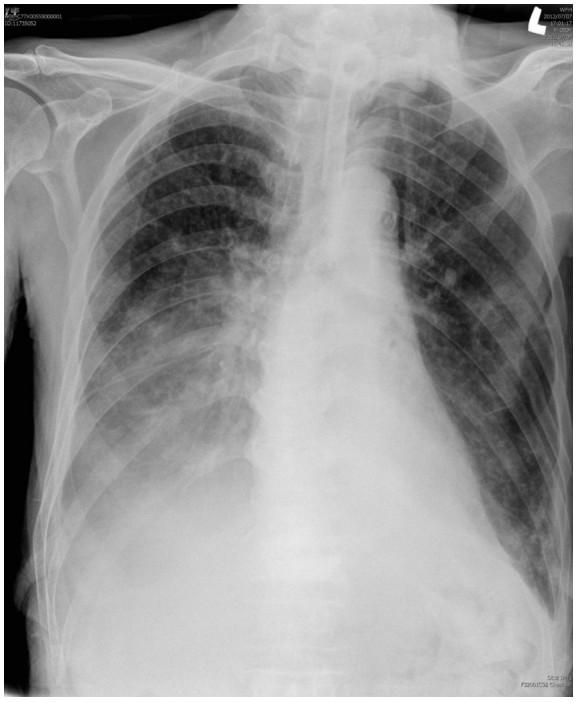

Figure 1. Chest radiograph revealing the infiltration patch of the right lower lobe of the lung.

required to evaluate the clinical manifestations, diagnosis, and antibiotic resistance of infections due to *M. osloensis*.

Conflicts of interest

All contributing authors declare no conflicts of interest.

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18 December 2014
Available online ■ ■ ■