

# *Pasteurella multocida* bacteremia due to obstructive pneumonia in an immunocompromised patient.

David Orozco, Kendyl Schreiber, Kriti Lnu, William Bambach  
University of Pittsburgh Medical Center, Harrisburg, Pennsylvania

## BACKGROUND

*Pasteurella multocida* is a gram-negative pathogen commonly associated with soft tissue infections, caused by bites or scratches from household animals.

However, *Pasteurella multocida* infections have been reported without prior zoonotic exposure or associated soft tissue or skin infection in immunocompromised individuals.

## CASE

A 73-year-old male with a past medical history of oropharyngeal and hypopharyngeal squamous cell carcinomas treated with resection, adjuvant chemotherapy, and laryngopharyngectomy presented to the ED with fevers up to 104°F, chills, and rigors for the past 4-5 days.

The patient denied having pets or any zoonotic exposures. He reported that just prior to the onset of symptoms, he had started a new chemotherapy regimen to treat his squamous cell carcinoma.

Physical exam showed a temperature of 39.2°C, heart rate of 109 beats/minute, blood pressure of 99/70 mmHg, respiratory rate of 26 breaths/minute with a SpO<sub>2</sub> of 100%, and decreased breath sounds with coarse crackles in the right lung. The remainder of the exam was noncontributory.

*Pasteurella multocida* is commonly associated with soft tissue infections secondary to bites or scratches from animals.

**Nasopharyngeal colonization** may be a source for disseminated *Pasteurella multocida* infection, particularly in immunocompromised patients.

**Nasopharyngeal swab** can be used to delineate cause.

**Due to high mortality**, blood cultures positive for *Pasteurella* should be treated with antibiotics.

## HOSPITAL COURSE AND DECISION MAKING

Initial lab results showed a white blood cell count of 13.4 K/ $\mu$ L with a left shift and 9% bands, and albumin 2.9 g/dL. Chest x-ray showed a new right mid-lung nodule and right basilar opacity suggestive of pneumonia or mass.

Blood cultures were drawn, and empiric antibiotics were initiated with intravenous cefepime, vancomycin, and metronidazole, which were subsequently switched to ampicillin/sulbactam, for presumed sepsis secondary to pneumonia. Blood cultures and lower respiratory cultures grew *Pasteurella multocida* sensitive to amoxicillin/clavulanic acid, tetracycline, and penicillin G. Antibiotics were switched to amoxicillin/clavulanic acid 875 mg-125 mg twice daily by mouth.

Patient's status improved, and the repeat blood cultures were negative after 48 hours. He was subsequently discharged with instructions to complete the 14-day course of amoxicillin/clavulanic acid at the same initial dose.

## DISCUSSION

Although *Pasteurella* bacteremia is considered a zoonotic infection with soft tissue as the nidus of disseminated infection, other sources are possible. In patients with a remote chronic exposure to cats or dogs, nasopharyngeal colonization may be a source and nasopharyngeal swab can be used to delineate cause.

Underlying respiratory disease can also be a factor leading to *Pasteurella* bacteremia, and should be ruled out during work-up. Due to high mortality, blood cultures that are positive for *Pasteurella* should not be considered a contaminant and should be treated with antibiotics.

## DISCLOSURE INFORMATION

No disclosure for any authors