Simplified Report: Mycoplasma phocimorsus Infection After a Cat Scratch

Abstract

A woman in Denmark developed a serious finger infection after her cat scratched her. Tests on the infected tissue showed the presence of a rare bacterium called *Mycoplasma phocimorsus*, which is usually linked to a condition known as “seal finger” (an infection typically seen in people who work with seals). Although it is unclear exactly how the bacterium was passed on by the cat, this case raises awareness that cats might sometimes spread unusual infections to people.

Keywords: Mycoplasma phocimorsus, seal finger, finger infection, antibiotics, zoonoses, Denmark

Introduction

Infections from animal scratches or bites are not uncommon, but sometimes they can be caused by unusual germs. In this report, we examine a case in which a 54-year-old woman developed a severe finger infection (called panaritium) after being scratched by her cat. The bacterium responsible for the infection, *Mycoplasma phocimorsus*, is not commonly seen in such cases and is better known for causing infections in people after contact with seals.

Case Presentation

- Patient Background:
  The patient was a 54-year-old woman with a history of high blood pressure, high cholesterol, and carpal tunnel syndrome in her right hand.

- Event:
  In July 2013, she was scratched on her right wrist by her cat. About one month later, she began experiencing symptoms of a severe infection in her hand.

- Initial Treatment:
  Two weeks after the scratch, she was treated with an antibiotic called phenoxymethylpenicillin. However, as her symptoms worsened, stronger antibiotics were started (including flucloxacillin). By the 30th day after the scratch, her infection had grown so severe that she was admitted to the hospital.

Laboratory Findings and Diagnosis

- Symptoms and Surgery:
  Although the patient did not have a fever, her hand showed signs of significant swelling and pain. Doctors suspected a deep infection in the tissues around her tendons (tenosynovitis). She underwent surgery to relieve pressure, during which severe swelling and inflammation (synovitis) were observed.

- Antibiotic Treatments:
  During surgery, she received intravenous antibiotics (such as cefuroxime) and later was given a combination of antibiotics after additional surgery when her pain spread toward her elbow. Because her symptoms did not fully improve, further testing was done.

- Advanced Testing:
  A tissue sample was sent for special laboratory analysis. Using a technique called 16S rRNA gene sequencing (a method to identify bacteria by their genetic material), scientists confirmed that the bacterium was *Mycoplasma phocimorsus*. This bacterium is known for causing “seal finger,” a painful infection usually associated with contact with seals.

Treatment and Outcome

- Changes in Treatment:
  As her condition worsened, the doctors changed her antibiotics several times. New medications (such as piperacillin/tazobactam and gentamicin) were added, and additional surgeries were performed. Despite these efforts, the patient continued to have pain, swelling, and limited movement in her hand.

- Final Treatment Adjustments:
  In August, even though laboratory test results were normal, her pain and wound drainage increased. She was given doxycycline and moxifloxacin for a few weeks. By October, although her treatment was complete, she still suffered from burning pain and reduced mobility in her hand, which affected her work.

Discussion

This case highlights several important points:

- Unusual Infections:
  Mycoplasma phocimorsus is not commonly found in infections from cat scratches. Its presence in this case suggests that cats may sometimes carry rare bacteria that can infect humans.

- Challenges in Diagnosis:
  Standard laboratory tests and cultures often fail to detect *Mycoplasma* because these bacteria need special growing conditions. The use of

genetic testing (16S rRNA gene analysis) was essential for making the correct diagnosis.

- Treatment Difficulties:
  Since *Mycoplasma* bacteria lack a cell wall, they are resistant to many common antibiotics (like those in the β-lactam family). This resistance means that doctors must use alternative medications and advanced testing methods to treat infections effectively.

Conclusion

The case of this 54-year-old woman shows how a simple cat scratch can lead to a serious and long-lasting infection caused by an unusual bacterium. It emphasizes the need for healthcare providers to use advanced diagnostic techniques when traditional tests fail. Finally, it reminds us that while cats are usually harmless, they can sometimes carry rare bacteria that may cause unexpected infections in humans.