



Pennsylvania Osteopathic
Medical Association

Rare Case of *Streptococcus equi* subspecies *zooepidemicus* Bacteremia

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Background

- *Streptococcus equi* subspecies *zooepidemicus* (*S. zooepidemicus*) is a zoonotic pathogen that primarily infects horses, pigs, and dogs
- Although rare, it has also been shown to infect humans who consume unpasteurized dairy food or have direct contact with horses
- Clinical manifestations of a systemic infection that have been seen include septic arthritis, psoas abscess, meningitis and endocarditis

Case Presentation

- An 86-year-old male with a past medical history of coronary artery disease, heart failure with reduced ejection fraction, complete heart block status post pacemaker, hypertension, hyperlipidemia, type 2 diabetes mellitus presented to the Emergency Room (ER) with fever and chills
- He endorsed fevers and rigors for 3 days but denied sore throat, cough, rashes or weight loss
- In the ER, vital signs revealed fever of 101.2°F and heart rate of 110 with other stable vital signs. Physical exam was benign except for tachycardia
- Lab work revealed no leukocytosis but elevated inflammatory markers and an elevated lactate. CT Chest, Abdomen and Pelvis did not reveal any source of infection
- Blood cultures grew *S. zooepidemicus* and the Infectious Diseases team started the patient on IV Penicillin G
- Transthoracic and transesophageal echocardiograms did not show valvular vegetations
- Repeat blood cultures showed clearance of the infection, and the patient was ultimately discharged on Amoxicillin



Figure 1: Electron microscopy of *Streptococcus* bacteria



Figure 2a: Horse with parotid lymph node abscess
and mucopurulent nasal discharge

Figure 2b: Horse with ruptured parotid lymph
node abscess

Source for Pictures: Lindahl, Susanne. "*Streptococcus equi* subsp. *equi* and *Streptococcus equi* subsp. *zooepidemicus*." (2013).

Discussion

- The patient denied consuming unpasteurized dairy products or having direct contact with horses
- Upon further questioning, however, he did endorse family members who occasionally interacted with horses
- His daughter intermittently cared for her neighbor's horse. Furthermore, his granddaughter's boyfriend worked at a horse farm and frequently visited his daughter's house
- Our patient did not develop any of the previously known clinical manifestations of *S. zooepidemicus* bacteremia

Conclusion

- This case is valuable as it adds to the sparse literature of *S. zooepidemicus* infections, specifically those in humans
- Extensive history taking is of utmost importance when a clear source of infection is not easily identifiable
- Further research is also needed to better understand the various modes of transmission of this bacteria in order to better target and caution those at an increased risk of becoming infected

References

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