

Aerococcus Urinae: An Increasingly Common Virulent Pathogen

Bryan Cochran, MD, Greg Turrisini DO

UVA Family Medicine

Abstract

Aerococcus urinae is a gram-positive, catalase-negative coccus that is often under-reported due to its misidentification as streptococci or staphylococci, but is a virulent pathogen that can lead to endocarditis. This report details a 67 year old male with complicating factors of previous urinary tract disease and a history of coronary artery bypass graft who had a delay in treatment of *aerococcus urinae* leading to endocarditis, urosepsis and ultimately death. In addition to recognizing the virulence of this pathogen, primary care physicians should understand appropriate antibiotic treatment, the common patient population and the risk factors that can help predict severe infection.

Identification

- *Aerococcus Urinae* is a gram positive, catalase positive bacteria.
- Often mis-identified as streptococci and staphylococci.
- Requires biochemical testing (hydrolysis of various sugars) that is timely and not always available.

Risk Factors

Men >70 years old
Underlying urinary pathologies (BPH, prostate/penile cancer, indwelling catheters)



Treatment

- Sensitive to penicillin and cephalosporins
- Penicillin and Gentamicin effective in Infective Endocarditis
- Tetracycline, Erythromycin, Clindamycin and Rifampacin rarely used.

Case

67 y.o. male with a PMHx significant for DM, BPH, HTN, CAD s/p CABG, dyslipidemia, and nephrolithiasis who was admitted for sepsis with initial concern for pulmonary source. Found to have *Enterococcus* bacteremia suggestive of urinary source complicated by endocarditis. Hospitalization complicated by acute acalculous cholecystitis and cardiac instability. Ultimately transferred to the MICU with PEA arrest resulting in death.

References

- Christensen, J J, et al. "Aerococcus-like Organism, a Newly Recognized Potential Urinary Tract Pathogen." *Journal of Clinical Microbiology*, vol. 29, no. 5, 1991, pp. 1049–1053., <https://doi.org/10.1128/jcm.29.5.1049-1053.1991>.
- Ebnöther, C., et al. "Aerococcus Urinae Endocarditis: Case Report and Review of the Literature." *Infection*, vol. 30, no. 5, 2002, pp. 310–313., <https://doi.org/10.1007/s15010-002-3106-x>.
- Rasmussen, Magnus. "Aerococci and Aerococcal Infections." *Journal of Infection*, vol. 66, no. 6, 2013, pp. 467–474., <https://doi.org/10.1016/j.jinf.2012.12.006>.
- Senneby, E., et al. "Clinical and Microbiological Features of Bacteraemia with *Aerococcus Urinae*." *Clinical Microbiology and Infection*, vol. 18, no. 6, 2012, pp. 546–550., <https://doi.org/10.1111/j.1469-0691.2011.03609.x>.