Background

*Aerococcus* is a genus that comprises seven species, of which *Aerococcus urinae*, and *Aerococcus sanguinicola* are emerging human pathogens. Aerococci are gram positive cocci that are easily misidentified as streptococci or staphylococci, and thus the incidence of aerococcal infections have been underestimated. *A. urinae* and *A. sanguinicola* are isolated in a small proportion of urinary specimens in many laboratories and many patients with bacteriuria with aerococci have symptoms of urinary tract infection (UTI). *A. urinae*, and also *A. sanguinicola*, cause invasive infections including infective endocarditis (IE) with many reported fatalities. Especially older men with urinary tract abnormalities are at risk for bacteraemia with *A. urinae* but the prognosis of bacteraemia without IE is favourable. Penicillin is appropriate for treatment of invasive infections and in IE, addition of an aminoglycoside should be considered. Treatment of UTI with aerococci is complicated by uncertainty about the effect of trimethoprim-sulphamethoxazole and fluoroquinolones on aerococci. Aerococci and aerococcal infections have been the subject of a recent review (1).

![A. urinae on a blood agar plate and in a gram-stain (Magnus Rasmussen)](image)

Our work on aerococci

We have taken interest in aerococci since we believe that these bacteria have been under-estimated as human pathogens. In collaboration with Oonagh Shannon we demonstrated that *A. urinae* has virulence properties of potential importance for IE (2). The PhD-student Erik Senneby, who is under training to become a clinical microbiologist, then turned to describe a series of severe infections with *A. urinae* (3). He demonstrated that IE is not a very common feature of aerococcal bacteraemia which had previously been the prevailing notion. Erik also showed that MALDI-TOF MS is a very useful method to identify aerococci to the species level (4). Erik is currently working on a prospective study, describing the clinical presentation of UTI with aerococci and a retrospective study of the presentation of bacteraemia with *A. sanguinicola*. Also involved in this project are Drs Bo Nilson and Ann-Cathrine Pettersson at the Department for clinical microbiology.

In collaboration with Dr Lars Olaison at Gothenburg University, we will describe the clinical features of IE with aerococci employing the Swedish Registry for Infective Endocarditis.

Magnus Rasmussen, May 2013

References

