Answer: *Aerococcus sanguinicola*

DISCUSSION

Species belonging to the genus *Aerococcus* are isolated from the urine and blood of elderly patients with underlying illnesses, such as diabetes, heart disease, or urological conditions.

They are facultatively anaerobic GPCs arranged in pairs, tetrads or irregular clusters, catalase and oxidase (-).

Aerococcus infections are probably underestimated since misidentification with more common catalase (-) GPCs such as streptococci probably occurs.

The genus was created in 1953 for *A. viridans* which is usually LAP (-) and PYR (+). This organism is found in air and soil but rarely causes human infection. *A. urinae* (1992) is LAP (+), and PYR (-) and causes UTIs in the elderly but also septicemia, endocarditis and soft tissue infection.

Other *Aerococcus* species include *A. christensenii* (1999), isolated from vaginal specimens, *A. urinaehominis* (2001), isolated from urine, and *A. sanguinicola* (2001), recovered from blood, endocarditis cases, and UTIs.

Two additional species, *A. urinaeequi* (2005) and *A. suis* (2007) have not yet been found in human specimens.

Most *Aerococcus* species will grow in Salt Broth but *A. sanguinicola* is the only species that is usually Bile Esculin (+). Commercial ID systems have limited abilities to ID *A. urinae/A. viridans* and will not recognize *A. sanguinicola* .

The most distinguishing characteristic of *Aerococcus* sp. is their gram stain morphology of large GPCs in clusters. This morphology is more distinctive from broth cultures than from colonies. *Aerococcus* sp. do not generally grow well enough in commercial AST systems and no CLSI breakpoints exist. Most isolates are considered susceptible to amoxicillin and nitrofurantoin but in-vitro susceptibility to other drugs such as ciprofloxacin and co-trimoxazole can be variable.

This case presented to our laboratory about 5 years ago but since that time we have routinely recovered *Aerococcus* sp., including *A. sanguinicola* from the urine of elderly patients. More recent publications have shown *A. sanguinicola* to be the second most common *Aerocococcus* sp. after *A. urinae* isolated from clinical specimens.

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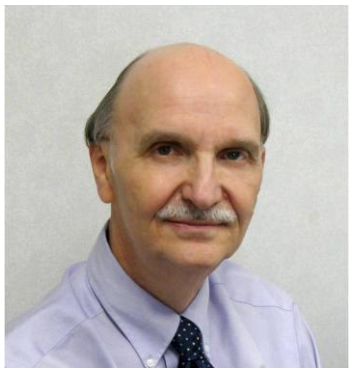

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