

## Please read this bit first

The HPCSA and the Med Tech Society have confirmed that this clinical case study, plus your routine review of your EQA reports from Thistle QA, should be documented as a "Journal Club" activity. This means that you must record those attending for CEU purposes. Thistle will **not** issue a certificate to cover these activities, nor send out "correct" answers to the CEU questions at the end of this case study.

The Thistle QA CEU No is: **MT00025**.

Each attendee should claim **THREE** CEU points for completing this Quality Control Journal Club exercise, and retain a copy of the relevant Thistle QA Participation Certificate as proof of registration on a Thistle QA EQA.

## Cycle 22 Organism 1:

### ***Stenotrophomonas maltophilia***

*Stenotrophomonas maltophilia* are environmental organisms found in water, soil and on plants. They have a worldwide distribution. Because of the increasing frequency of nosocomial infections due to *S. maltophilia*, its presence in hospital environments is being more closely examined. The organism can be readily cultured from water sources in homes and hospitals<sup>2</sup>.

*S. maltophilia*, formerly named *Pseudomonas* and then *Xanthomonas maltophilia* is the only species of the genus. *S. maltophilia* are motile, free-living, glucose-nonfermentative, Gram-negative aerobic bacilli with multitrichous polar flagella. *S. maltophilia* grows readily on most bacteriologic media, typically appearing pale yellow, grayish, lavender green on blood agar. Preliminary identification may be facilitated by its ammonia-like odour. Most clinical isolates are oxidase negative, oxidation of glucose and maltose. *S. maltophilia* give a positive reaction for DNase and lysine decarboxylase<sup>1</sup>.

*S. maltophilia* uncommonly causes community acquired pneumonia (CAP) in previously normal patients. Their resistance to a number of antimicrobial agents selects them in the hospital environment. *S. maltophilia* is a nosocomial pathogen that occurs in the same types of hospitalized patients as *Burkholderia cepacia*. In the majority of clinical situations, isolation of *S. maltophilia* may represent colonization or contamination rather than true infection<sup>2</sup>.

The most frequent clinical manifestation of *S. maltophilia* infection is pneumonia. True *S. maltophilia* pneumonia is more likely to occur among intensive care or cancer patients and is associated with extensive use of broad-spectrum antibiotics. Advanced age, and mechanical ventilation. Nosocomial pneumonia caused by *S. maltophilia* is associated with a high mortality, particularly when associated with bacteraemia or obstruction<sup>2, 3</sup>.

The second most frequent clinical manifestation of *S. maltophilia* infection is central venous catheter-related bacteraemia<sup>2</sup>. A substantial proportion of these infections are polymicrobial<sup>3</sup>.

Single cases of other clinical manifestations of *S. maltophilia* infection, such as endocarditis both on native and prosthetic valves, endophthalmitis, sinusitis, cellulites and myositis, have been described. *S. maltophilia* isolated from the urinary tract often represent colonization in the presence of a Foley catheter rather than true infection<sup>2,3</sup>.

The Clinical and Laboratory Standards Institute (CLSI) recommend that only trimethoprim-sulfamethoxazole, levofloxacin and minocycline be tested against isolate of *S. maltophilia*. Other antibiotics may appear sensitive in vitro but are not clinically effective.

## References

1. Gilligan PH, Lum G, Vandamme PAR, and Whittier S. *Stenotrophomonas*. In Murray PR, ed. Manual of Clinical Microbiology. Washington, DC: ASM Press; 2003: 729-748.
2. Denton M, Kerr KG. Microbiological and clinical aspects of infection associated with *Stenotrophomonas maltophilia*. Clin Microbiol Rev. 1998;**11**:57-80.
3. Gopalakrishnan R, et al. *Stenotrophomonas maltophilia* infection and colonization of the intensive care units of two community hospitals: A study of 143 patients. Heart Lung. 1999;**28**:134-141.

## Questions:

1. How will you isolate and identify *S. maltophilia*?
2. What types of infections are caused by *S. maltophilia*?
3. What are the recommended antimicrobial agents used to treat *S. maltophilia* infections?

S A N A S

