

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 21 Organism 7:

Morganella morganii

The genera *Proteus*, *Providencia*, and *Morganella* are related members of the family Enterobacteriaceae that are lactose fermenting negative, motile and produce phenylalanine deaminase. There are several species of *Proteus*, but *P. mirabilis* and *P. vulgaris* are the most common clinical isolates in this genus. Both species produce the enzyme urease, and the latter is indole positive. Members of this genus also produce H₂S, and are capable of swarming motility. *Providencia* can be differentiated from *Proteus* and *Morganella* on their ability to utilize citrate and ferment mannitol. *Morganella morganii* is at present the only member of the genus. *M. morganii* subsp. *morganii* is identified 100% of the time in commercial systems according to most studies. *M. morganii* subsp. *sibonii* is not included in most databases and may be separated from subsp. *morganii* only by a positive reaction with trehalose¹.

M. morganii usually causes urinary tract infections or is isolated from wounds¹. In one study, *M. morganii* bacteraemia was frequently associated with biliary tract disease and biliary drainage catheters, and prior surgery². As with other members of this group of bacteria, *M. morganii* may cause nosocomial outbreaks³. *M. morganii* strains possess inducible AmpC beta-lactamases and therefore are intrinsically resistant to penicillins and cephalosporins⁴.

S A N A S



PROFICIENCY TESTING SANAS Accredited to ISO Guide 43 / ILAC G13

References

1. O'Hara CM., Brenner FW., Miller JM. Classification, identification, and clinical significance of *Proteus*, *Providencia* and *Morganella*. *Clin Microbiol Rev.* 2000; **13**:534-546.
2. Kim BM. *Et al.* Bacteraemia due to tribe Proteeae: A review of 132 cases during a decade (1991-2000). *Scand J Infect Dis.* 2003; **35**: 98-132.
3. McDermot C., Mylotte JM. *Morganella morganii*: Epidemiology of bacteraemic disease. *Infect Control.* 1984; **5**: 131-137.
4. Poirel L. *et al.* Cloning, sequence analysis, expression, and distribution of ampC-ampR from *Morganella morganii* clinical isolates. *Antimicrob Agents Chemother.* 1999; **43**: 769-776.

Questions

1. How would you isolate and identify a *M. morganii* isolate?
2. How would you differentiate *M. morganii* from the genera *Proteus* and *Providencia*?
3. What infections are caused by *M. morganii*?