

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 23 Organism 10:

Acinetobacter baumannii

Acinetobacter baumannii is an aerobic gram-negative bacillus (similar in appearance to *Haemophilus influenzae* on Gram stain) commonly isolated from the hospital environment and hospitalized patients. It is often cultured from hospitalized patients' sputum or respiratory secretions, wounds, and urine. *Acinetobacter* commonly colonizes irrigating solutions and intravenous solutions.

Acinetobacter is an organism of low virulence, but it is capable of causing infection. Most *Acinetobacter* isolates recovered from hospitalized patients, particularly those recovered from respiratory secretions and urine, represent colonization rather than infection.

Acinetobacter infections are uncommon, but, when they occur, they usually involve organ systems with a high fluid content (eg, respiratory tract, CSF, peritoneal fluid, urinary tract), manifesting as nosocomial pneumonia, infections associated with continuous ambulatory peritoneal dialysis (CAPD), or catheter-associated bacteremia.

Mortality and morbidity resulting from *A. baumannii* infection relate to the underlying immune status of the host rather than the inherent virulence of the organism. Patients who are very ill with multisystem disease have increased mortality and morbidity rates resulting from their underlying illness rather than the superimposed infection with *Acinetobacter*.

Patients with *Acinetobacter* infection have signs and symptoms related to the organ system involved, i.e. wound infection, episodic outbreaks of nosocomial pneumonia, CAPD-associated peritonitis, nosocomial meningitis, or catheter-associated bacteremia.

Acinetobacter commonly colonizes skin, oropharynx secretions, respiratory secretions, and urine. *Acinetobacter* uncommonly colonizes the gastrointestinal tract and is associated with nosocomial pneumonias (which usually occur as outbreaks), bacteremias, and wound infections. *Acinetobacter* infection is rarely associated with meningitis, endocarditis (native valve infective endocarditis and prosthetic valve endocarditis), peritonitis, urinary tract infections, community-acquired pneumonia, and cholangitis.

The main differential diagnostic problem with *Acinetobacter* is to differentiate colonisation from infection.

In the presence of pulmonary infiltrates in ICU patients, CAPD-associated peritonitis, meningitis, wound infection, or catheter-associated bacteremia, the differential diagnosis includes other aerobic gram-negative bacilli that colonize or infect these fluids, ie, *Enterobacter* species, *Stenotrophomonas maltophilia*, *Burkholderia cepacia*, *Pseudomonas aeruginosa*, *Flavobacterium meningosepticum*, and *Serratia marcescens*.

Because *Acinetobacter* is predominantly a colonizing organism, the burden of proof is on the clinician to demonstrate its pathogenic role in a given situation.

A baumannii is intrinsically multidrug resistant. Relatively few antibiotics are active against this organism. While colonization should not be treated, infection should.

Medications to which *Acinetobacter* is usually sensitive include Meropenem, Colistin, Polymyxin B, Amikacin, Rifampin, Minocycline and Tigecycline. In general, first-, second-, and third-generation cephalosporins, macrolides, and penicillins have little or no anti-*Acinetobacter* activity, and their use may predispose to *Acinetobacter* colonization.

CPD Questions:

1. What is your procedure for dealing with the issue of "colonisation versus infection" with *A. baumannii*?
 2. Have you noticed any change in the frequency of isolation of this organism in your patient population?
 3. Have you noticed any particular patient population that seems more susceptible to infection, rather than colonisation with *A. baumannii*?
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