



GenMark®-guided Antibiotic Selection for Gram-negative Bacteremia

- Results available 3-4 hours after blood cultures grow Gram-negative rods (GNR)
 - Test identifies nucleic acid of 21 bacteria and detects six resistance markers: CTX-M (ESBL), KPC, OXA (OXA-48, OXA-23), IMP, NDM, VIM
- Recommendations for empiric antibiotics based on test results prior to availability of susceptibility results are available in the JHH/BMC Antibiotic Guidelines
- The ASP reviewed 237 blood cultures between 12/19-6/20 and evaluated test performance.
 - The test is highly reliable in detecting targeted organism and resistance markers
 - Targeted organisms identified correctly in 98% of cases
 - The ASP Guidelines are effective in providing optimal empiric therapy
 - Recommended antibiotics were susceptible to the identified organism in 95% of cases
 - Presence of ESBLs (e.g. SHV, TEM) and carbapenem-resistant Enterobacterales (CRE) not detected by the test were the reasons for suboptimal empiric therapy

NEW Formulary Additions

- **Imipenem-cilastatin-relebactam:** Indicated for treatment of MDR *Pseudomonas* and some CRE
- **Cefiderocol:** Indicated for treatment of several difficult-to-treat resistant GNRs such as Enterobacterales with KPC, NDM, VIM, IMP, OXA-mediated resistance, MDR *Pseudomonas*, *Acinetobacter*, *Burkholderia*, and *Stenotrophomonas*.
- Both Require ASP(JHH)/ID(BMC) approval

Blood Culture Clinical Practice Updates

- Blood cultures are no longer required prior to initiation of parenteral nutrition via an existing central line
- Blood cultures are not routinely recommended prior to insertion/reinsertion of central lines except when there is high risk of persistent bacteremia (e.g., any *S. aureus* or *S. lugdunensis* bacteremia, any endovascular infection such as infective endocarditis, vascular graft/device infection, vascular catheter infection) or candidemia is present
- Note that the above indications are also those for obtaining follow-up blood cultures
- Additional details including an algorithm with indications for initial and repeat blood cultures can be found in the Bacteremia section of the JHH/BMC Antibiotic Guidelines

Continuing Parenteral Nutrition (PN) in Patients with Bacteremia and Candidemia

- We evaluated outcomes (mortality within 30 days of positive blood culture, recurrent bacteremia/candidemia, sepsis, re-admission) of patients who developed bacteremia/candidemia while receiving PN to assess the impact of continuing PN in the setting of a bloodstream infection
- Outcomes were not different between patients who did and did not have PN stopped
- Infected PN catheters should be removed, but holding PN until blood cultures have cleared should be avoided

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