Each Hour Counts: Physician and Pharmacist Perspectives on the Value of Rapid Blood Culture Testing

On Thursday, October 29th, Nanosphere and Xtalks will host a complimentary, P.A.C.E. accredited webinar on the clinical impact of rapid blood culture testing. This webinar will review the current guidelines for the management of septic patients and discuss the impact that rapid blood culture diagnostics are having on the clinician's ability to manage patients with bloodstream infections and antimicrobial stewardship initiatives.

Sepsis, the host's immune response to a serious infection, can be triggered by bacteria or fungi circulating in the bloodstream. Sepsis that results from bacteremia causes nearly 500,000 hospitalizations each year in the U.S. and accounts for 11% of intensive care unit (ICU) admissions.[1] Mortality associated with these infections is extremely high and can range anywhere from 25% to 80%. [2] Septicemia is not only burdensome due to its high associated rates of mortality, but also because of the excessive cost associated with treating this disease. Septicemia has consistently ranked as the most expensive condition to treat in U.S. hospitals. In 2011, treatment of septicemia resulted in an aggregate cost of $20.3 billion, which was 5.2 percent of the total aggregate cost of all hospitalizations.[3] When compared to the average cost of a patient admitted to the intensive care unit (ICU) who does not acquire a bloodstream infection, those that do remain in the ICU 8 days longer and 24 days in the hospital longer, resulting in $36,000 to $40,000 in additional costs per patient.[4]

Time to appropriate therapy has been proven to be a critical determinant for patient outcomes. Kumar et al. demonstrated a 7.6% mean decrease in survival rates for each hour that optimal therapy is delayed following the start of sepsis-related hypotension.[5] Conventional culture-based diagnostics, which remain the gold standard for identification of the bloodstream pathogens, are not ideal as they are associated with very slow turnaround times which can stretch upwards of 3-4 days. With long time-to-identification, a patient might remain on the inappropriate empiric therapy, predisposing them to a higher risk of mortality. Patients in the ICU receiving inadequate antimicrobial treatment for bloodstream infections have an associated mortality rate of 61.9%, while patients receiving appropriate therapy only have an associated mortality rate of 28.4%.[6]

Molecular based diagnostic tests have emerged as the first viable solution to culture for the detection of bloodstream pathogens. Rapid diagnostic tests for bloodstream infections have been able to accelerate the time to bacterial identification and antimicrobial resistance detection by as many as 2 days over traditional phenotypic methods, allowing clinicians the opportunity to place the patient on the optimal therapy much quicker. Clinical implementation of these tests has been associated with improved patient outcomes, enhanced antimicrobial stewardship, more effective infection control, and has led to reduction in healthcare costs.[7-12] The increase in adoption of rapid sepsis diagnostic tests has been driven, in large part, by clinical studies that have captured the clinical and economic impact of these tests.

Featured Speakers:

- **Marin H. Kollef, M.D., FACP, FCCP, Professor, Medicine** , Division of Pulmonary and Critical Care Medicine, Director, Medical Intensive Care Unit, Barnes-Jewish Hospital,**Director, Respiratory Care Services, Barnes-Jewish Hospital**
- **Brad J. Crane, PharmD, BCPS**, Clinical Pharmacy Specialist, Critical Care/Infectious Diseases, Director, Antimicrobial Stewardship Program, **Blount Memorial Hospital**

To register or learn more about this complimentary event visit: Each Hour Counts: Physician and Pharmacist Perspectives on the Value of Rapid Blood Culture Testing

P.A.C.E. Accreditation

Xtalks is approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E. ® Program -- Attendees will receive further details after the event.

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