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UNIVANTS™
OF HEALTHCARE EXCELLENCE

Leading best practices in integrated clinical care for antibiotic stewardship


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Distinction awarded to team members at Swedish Covenant Hospital, Chicago, Illinois, United States of America

Substantial progress has been made in the treatment of infections, largely due to the discovery and use of antibiotics. However, until recently, the diagnosis of infection and subsequent determination of antibiotic treatment was predominantly based on clinical judgement. While some laboratory information, such as elevation of white blood cells and the presence of bands, can be used to support diagnosis following clinical presentation, they are not very specific for bacterial infection. More recently, procalcitonin (PCT) levels were found to be a source of objective information that could reliably be used to quickly determine when to initiate or withhold antibiotic therapy. However, it is crucial for the information to be interpreted and acted upon correctly for effective treatment decisions.

Dr. Erik Gluck, MD, JD, FCCP, FCCM, Director of Critical Care Services, has been an early leader in utilizing PCT guided antibiotic protocols to maximize clinical care. Under his leadership, an innovative integrated care team at Swedish Covenant Hospital in Chicago, Illinois have led best practices in antibiotic stewardship including the development and implementation of PCT guided protocols.

Their program included interactive peer-to-peer discussions, activation of project champions, as well as functional reviews of emerging data to drive forward various stakeholders' alignment and enable implementation of their care initiative into clinical practice. A stepwise implementation, beginning with select activation of the algorithm within the intensive care unit (ICU), was used to activate the initiative into clinical practice. Success in the ICU setting led to adoption of the algorithm in the Emergency Department (ED), and from there, across their entire health system. Eventually, their success ensured the recommendations were also incorporated into their Rapid Response Team (RRT) protocol for sepsis. The implementation of their care initiative has achieved extraordinary results. These results include a reduction in antibiotic exposure from 12 days to 8 days (on average) for hospital inpatients admitted for infection or sepsis.

Pharmacist Kathryn Rataj (PharmD, BCPS, Clinical Pharmacy Specialist Critical Care) states that, "In my ICU patient population having procalcitonin available has been a vital tool in my antimicrobial stewardship practice." Activation of their protocol has also reduced average length of stay from 12.8 days to 10.5, reducing costs and care burden, particularly in acute care settings. The total hospital costs per ICU patient with sepsis was reduced by almost $3,000 as well.

Clinicians' confidence increased using the PCT guided algorithm to inform their care decisions. Dr. Eric Gluck (MD, JD, FCCP, FCCM, Director of Critical Care Services) notes, "Introduction of procalcitonin into clinical care has significantly reduced the angst associated with stopping antibiotics in the ICU." Collaborative effort across many disciplines was required for the initial and continued success of their antibiotic stewardship program.

In honor of their team's achievements, Eric Gluck MD, JD, FCCP, FCCM, Director of Critical Care Services, Kathryn Rataj PharmD, BCPS, Clinical Pharmacy Specialist Critical Care, Susan Dawson, MBA, MT-ASCP, Laboratory Manager, Steven Kalish, MD, FACP, FSHEA, Chair Section of Infectious Disease & Chair Pharmacy and Therapeutics Committee and Mark Richardson, MSN, RN, CCRN, ICU Nurse Educator were recognized in 2018 for measurable healthcare excellence in association with the UNIVANTS of Healthcare Excellence Award.

THREE KEY TAKEAWAYS:

1. Procalcitonin is a proven biomarker for antibiotic stewardship in a variety of settings including the ED, ICU, and NICU.
2. Interdisciplinary, cross-functional teams are essential in ensuring activation of evidence-based pathways for appropriate antibiotic therapy and the betterment of health in patients with infection and sepsis.
3. Implementation of procalcitonin guided algorithms have positively impacted Key Performance Indicators (KPIs) including length of stay, increased clinician confidence, reduced costs and increased patient wellness.