1994. Impact of Pharmacist-initiated MRSA Nasal PCR Protocol on Pneumonia Therapy in a Community Teaching Hospital

Selena Pham, PharmD; Abby Sturm, PharmD, BCPS;
Lisa Dumkow, PharmD, BCPS, BCIDP; Joshua Jacoby, PharmD, BCPS;
Nnaemeka Egwuatu, MD, MPH; Mercy Health Saint Mary's, Grand Rapids, Michigan

Session: 235. Antibiotic Stewardship: Diagnostics and Diagnostic Stewardship
Saturday, October 5, 2019: 12:15 PM

Background. Methicillin-resistant *Staphylococcus aureus* (MRSA) nasal PCR testing can rapidly detect MRSA colonization via nasopharyngeal swab. With a high negative predictive value for MRSA pneumonia, this test may help minimize the duration of anti-MRSA therapy and associated adverse drug events. This study aimed to evaluate the impact of a pharmacist-initiated MRSA nasal PCR protocol on pneumonia therapy in a community teaching hospital.

Methods. This retrospective, quasi-experimental study evaluated adult patients with pneumonia before and after the implementation of a pharmacist-initiated MRSA nasal PCR protocol. The GeneXpert MRSA/SA Nasal Complete Assay was utilized for PCR testing. Prior to protocol implementation the MRSA nasal PCR was not routinely used to assist in pneumonia treatment decisions. Following protocol implementation, pharmacists ordered MRSA PCR testing after an order for anti-MRSA pneumonia therapy; however, prescriber approval was required to discontinue therapy following negative result. The primary outcome of this study was to compare the duration of anti-MRSA therapy between the pre-PCR group (June 1–November 1, 2017) and PCR group (June 1–November 1, 2018). Secondary comparisons included the duration of antipseudomonal therapy, time from IV to PO interchange, adverse events, and clinical outcomes between groups.

Results. 210 patients were included (pre-PCR $n = 138$, PCR $n = 72$). Vancomycin was the anti-MRSA therapy ordered for all patients in both groups. In the PCR group, the median time from vancomycin order to PCR order was 2.8 hours (0–45.6 hours), while median time from PCR order to PCR result was 4.4 hours (0.6–31.5 hours). The PCR result was negative for 63 patients (87.5%) and 56 (88.9%) vancomycin orders were discontinued within 24 hours of the negative result. The mean duration of vancomycin therapy was significantly shorter in the PCR group (2.5 vs. 1.4 days, $P < 0.001$) as well as duration of IV therapy (5 vs. 3.9 days, $P = 0.003$). There was no difference between groups in duration of antipseudomonal therapy ($P = 0.425$), acute kidney injury ($P = 0.332$), 30-day readmission ($P = 0.137$), or 30-day mortality ($P = 0.179$).

Conclusion. A pharmacist-led MRSA nasal PCR protocol significantly decreased the duration of anti-MRSA therapy and IV antibiotic duration in patients with pneumonia.

Disclosures. **All authors:** No reported disclosures.

1995. Serial Procalcitonin Measurement in a Community Intensive Care Unit: Is There Value in the Setting of an Established Antibiotic Stewardship Program?

Jenny Seah, BScPhm, PharmD, CRE[1]; Daniel Beriault, MSc, PhD, FCACB[2];
Bradley Langford, BScPhm, ACPR, PharmD, BCPS[1];
Kevin L. Schwartz, MD MSc FRCPC[3]; Robert Cirone, MD, FCPC(C)[4];
Maria Pasic, PhD[1]; April Chan, BSc(Pharm), ACPR, PharmD, BCPS[5];
Mark Downing, MD, FRCPC[6]; [1]St Joseph's Health Centre, Toronto, ON, Canada; [2]St Michael's Hospital, Toronto, ON, Canada; [3]St Joseph Health Centre, Toronto, ON, Canada; [4]University of Toronto, Toronto, ON, Canada; [5]Unity Health Toronto - St. Joseph's Health Centre, Toronto, ON, Canada; [6]St. Joseph's Health Centre, Toronto, ON, Canada

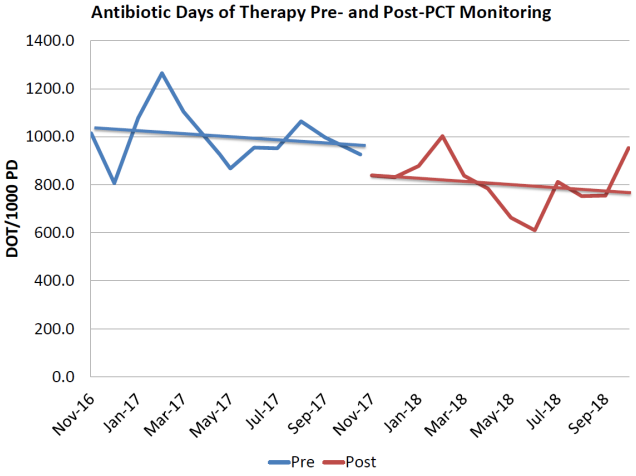
Session: 235. Antibiotic Stewardship: Diagnostics and Diagnostic Stewardship
Saturday, October 5, 2019: 12:15 PM

Background. Procalcitonin (PCT) monitoring has been shown to result in reduced antibiotic use without an impact on patient outcomes. However, the real-world value of this biomarker has yet to be determined, particularly when efforts to optimize antibiotic use are already in place. We evaluated the feasibility and impact of PCT-guided antibiotic duration combined with an established antibiotic stewardship program (ASP) in a community hospital intensive care unit (ICU) in Toronto, Canada.

Methods. We conducted a quality improvement initiative in our ICU from November 2017 to October 2018 measuring daily PCT levels for immunocompetent patients receiving antibiotic therapy for suspected or proven bacterial infection with an expected duration between 48 hours and 21 days. Our protocol recommended stopping antibiotic therapy if PCT fell below 0.5 µg/L (absolute threshold) or if it dropped more than 80% from its peak value (relative threshold). ASP rounds took place twice weekly since 2013, integrating a regular discussion about PCT levels once this initiative was implemented. We evaluated the adherence to stopping criteria within 48h, antibiotic use (days of therapy per 1,000 patient-days), length of stay, 48h re-admission, and ICU-mortality. Interrupted time series with segmented regression was performed to evaluate pre-post intervention differences compared with the 12-months prior to implementation.

Results. A total of 297 antibiotic courses were monitored with PCT in 217 patients. Respiratory (62%), unknown infection (11%), and intra-abdominal infection (7%) were the most common reasons for antibiotics. Protocol adherence was 34% (absolute threshold: 39%, relative threshold: 12%). Adherence by ICU physician varied widely between 24% and 52%. Antibiotic use pre-PCT was 1,002 DOTs/1,000 PDs and post-PCT was 817 DOTs/1,000 PDs (adjusted change −15%, 95% CI: −28% to +8%) (Figure 1). No statistically significant changes in clinical outcomes were noted.

Conclusion. In the context of an active ASP in a community hospital ICU, PCT monitoring was associated with a non-significant decrease in antibiotic use. Further evaluation of reasons for inter-physician variability in adherence and opportunities for improved and sustained overall adherence should be explored.



Disclosures. **All authors:** No reported disclosures.

1996. Enteric Multiplex PCR Testing: Antimicrobial Stewardship Friend or Foe

Mary Ellen Acree, MD[1]; Erin McElvania, PhD, D(ABMM)[1];
Angella Charnot-Katsikas, MD[2]; Kathleen Beavis, MD[3];
Scott Matushek, MS, M(ASCP)[3]; Natasha N. Pettit, PharmD[4]; [1]NorthShore University HealthSystem, Evanston, Illinois; [2]The University of Chicago Medicine, Chicago, Illinois; [3]University of Chicago, Chicago, Illinois; [4]University of Chicago Medicine, Chicago, Illinois

Session: 235. Antibiotic Stewardship: Diagnostics and Diagnostic Stewardship
Saturday, October 5, 2019: 12:15 PM

Background. There are advantages and challenges associated with enteric multiplex PCR testing. Fast turnaround time can lead to prompt pathogen identification and antibiotic initiation, decreased length of stay and decreased time in isolation. Challenges include identification of multiple organisms, carrier state detection, and detection of organisms with uncertain pathogenic potential, which can lead to unnecessary antibiotic use.

Methods. Two institutions transitioned from stool culture to stool PCR testing for identification of diarrheal pathogens. On February 1, 2016, Center 1 employed the BioFire® FilmArray® GI Panel, which detects 22 organisms and includes targets of unclear clinical significance. Center 2 implemented the BD MAX™ Enteric Bacterial Panel on 3/6/2019, which reports 4 bacterial known pathogens. Fluoroquinolone (FQ) and third-generation cephalosporin (TGC) prescribing in response to positive PCR testing was assessed over a 1 month period. Antibiotics were counted when prescribed within 72 hours of the collection date.

Results. At Center 1, 332 GI PCR panels were ordered, 94 (28.3%) were positive and 15 (16%) were treated; 4 received an FQ (26%), and 11 (73%) received a TGC. Center 1 organisms included 44 *Clostridioides difficile*, 27 Norovirus, 8 Enteropathogenic *E. coli*, 7 Sapovirus, 4 *Campylobacter* species, 2 Giardia lamblia, 2 Rotavirus, 1 *Shigella*/Enteroinvasive *E. coli* and 1 *Salmonella* species. Of 642 PCR tests ordered at Center 2, 16 (2.5%) were positive and 11 (69%) were treated; 10 (91%) received a FQ, and 1 (9%) received a TGC. Center 2 organisms included 8 non-typhoidal *Salmonella* species, 5 *Aeromonas* species, 2 *Shigella sonnei* and 1 *Salmonella typhi*.

Conclusion. Implementation of an enteric multiplex PCR test with targets of uncertain clinical significance is more likely to yield an abnormal result than a PCR test with only known pathogens. However, careful interpretation of results can avoid unnecessary antimicrobial use. Antimicrobial stewardship teams should work in tandem with microbiology laboratories to implement enteric multiplex PCR tests and monitor the impact on antibiotic use. Larger studies are needed to definitively assess the impact of the GI panel on antimicrobial prescribing within the context of patient comorbidities and institutional practices.

Disclosures. **All authors:** No reported disclosures.

1997. Real-World Impact of Accelerate Pheno Implementation with Antimicrobial Stewardship Intervention

Patrick M. Kinn, PharmD, MPH;
Kelly M. Percival, PharmD, BCPS-AQ ID ; Bradley A. Ford, MD, PhD;
Dilek Ince, MD; University of Iowa Hospitals and Clinics, Iowa City, Iowa

Session: 235. Antibiotic Stewardship: Diagnostics and Diagnostic Stewardship
Saturday, October 5, 2019: 12:15 PM

Background. Accelerate Pheno® (AP) is a novel diagnostic system that provides rapid identification and antibiotic susceptibility results for most commonly isolated organisms within hours of blood culture (BC) positivity. There are little data on this technology's real-world implementation with antimicrobial stewardship intervention and effect on optimal targeted therapy.

Methods. AP was implemented at UIHC in September 2018 and paired with antimicrobial stewardship team (AST) review. AST recommendations were provided in real time during weekday hours and through a retrospective review process