Figure 2

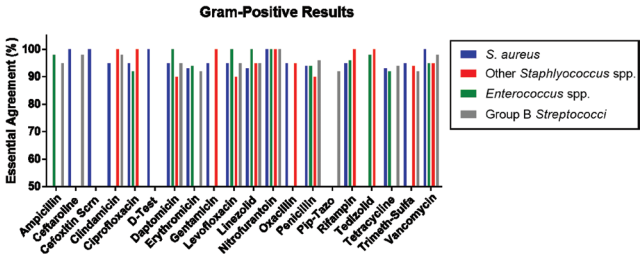
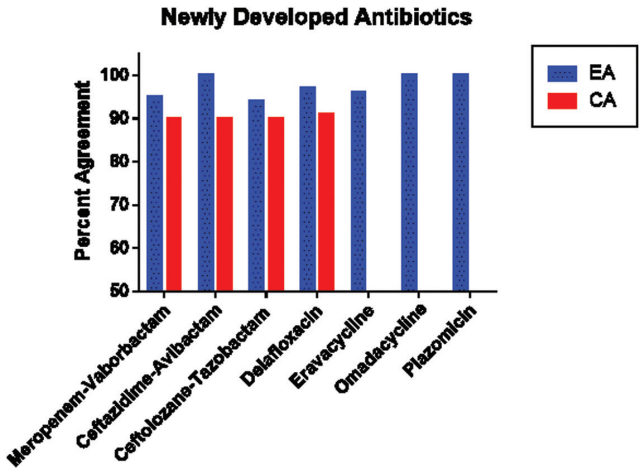


Figure 3



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2077. Assessment of the Clinical Impact of Rapid Identification with Same-Day Phenotypic Antimicrobial Susceptibility Testing (Accelerate Pheno™ System) on the Management of Bloodstream Infections in Adult Patients with Antibiotic Stewardship Intervention: A Retrospective Observational Study

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Session: 232. Diagnostics: Resistance Testing
Saturday, October 6, 2018: 12:30 PM

Background. Rapid initiation of appropriate antimicrobial therapy is crucial in managing severe infections, including bloodstream infections. Timely availability of microbiological results is essential to enable early de-escalation of empiric therapy, which is one of the key components of an effective antimicrobial stewardship program. The Accelerate Pheno™ system (AXDX) is a novel technology for rapid identification and phenotypic antimicrobial susceptibility testing with promising results. Yet the impact of this technology on the clinical management and patient outcome still is unclear.

Methods. The University Hospital Cologne is a 1,464-bed tertiary care hospital. We conducted a retrospective before and after observational study and analyzed three groups with different diagnostic and therapeutic pathways following a change in the standard of care and recent integration of AXDX: conventional microbiological diagnostics with and without antimicrobial stewardship program (ASP) intervention from January 2015 to July 2015, rapid diagnostics (AXDX in addition to conventional standard) with ASP intervention from January 2017 to March 2018.

Results. $n = 280$ patients met inclusion criteria and $n = 225$ (conventional microbiological diagnostics $n = 74$/conventional diagnostics + ASP intervention $n = 79$/rapid diagnostics + ASP intervention $n = 72$) were included in the final analysis during the two study periods. There was no difference in clinical and demographic characteristics among the three groups. The use of AXDX significantly decreased time from positive blood culture to microorganism identification (ID) (median: 25 hours vs. 12.5 hours, $P < 0{,}001$) and susceptibility testing (AST) (median: 43.8 hours vs. 17.6 hours, $P < 0.001$) and improved time from Gram stain to optimal therapy (median: 20.1 hours vs. 7 hours, $P < 0.01$). ASP intervention alone without AXDX improved the proportion of patients on optimal therapy within 48 hours after Gram stain (62.2% vs. 77.2%, $P < 0.05$).

Conclusion. Use of AXDX significantly reduced time to ID and AST by 12.5/26.2 hours. In combination with ASP intervention AXDX significantly reduced time to optimal therapy by 13.1 hours, ASP intervention alone also improved the proportion of patients on optimal therapy within 48 hours.

Disclosures. **K. Ehren**, Accelerate Diagnostics Inc.: Research Contractor, Research support. **A. Meißner**, Accelerate Diagnostics Inc.: Research Contractor, Research support. **J. Ertel**, Accelerate Diagnostics Inc.: Research Contractor, Research grant. **H. Seifert**, Accelerate Diagnostics Inc.: Research Contractor, Research grant.

2078. Adherence to Laboratory Screening Recommendations for Neonatal Herpes Simplex Virus Infection at a Tertiary Children's Hospital

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Session: 233. Diagnostics: Virology
Saturday, October 6, 2018: 12:30 PM

Background. Though American Academy of Pediatrics (AAP) publications detail the precise laboratory evaluation to perform for suspected neonatal herpes simplex virus (HSV) infection, significant practice variability persists. The primary aim of this study was to assess adherence to AAP laboratory testing guidance for neonatal HSV at our hospital. Other aims included: (1) comparing adherence rates for infants tested due to concern for symptomatic infection with those screened due to maternal genital lesion presence at birth and (2) determining the rate of infected infants among those tested.

Methods. Chart review was performed for infants ≤42 days old hospitalized from February 1, 2013–June 30, 2016 and tested for HSV. Subjects were categorized as asymptomatic neonates born to mothers with active genital HSV lesions at delivery or as symptomatic with concern for neonatal HSV disease. Those tested as outpatients and asymptomatic newborns of mothers with a history of genital HSV but no active lesions at delivery were excluded. Demographics and maternal HSV status were collected. Evaluations were classified as complete or incomplete based on AAP recommendations.

Results. Of 245 subjects, 24 (10%) were asymptomatic newborns of mothers with lesions at delivery, while 221 (90%) were tested due to possible symptomatic disease. Only 4/245 (1.6%) had HSV infection. Complete evaluations were more likely for asymptomatic infants ($P < 0.01$), but only 27 total subjects (11%) had a complete evaluation. Blood PCR and surface cultures were omitted most frequently—missing from 196 (80%) and 150 (61%) evaluations, respectively. Of those lacking surface cultures, 58 (39%) had surface PCRs. CSF PCRs were not obtained for 118/221 (53%) symptomatic evaluations. No association was found between known maternal history of genital HSV prior to delivery and evaluation completeness ($P = 0.19$).

Conclusion. Adherence to AAP testing recommendations for neonatal HSV was poor, though evaluation completeness was more likely for asymptomatic infants of mothers with lesions at delivery than for symptomatic infants. Despite a low incidence of neonatal HSV, education regarding appropriate laboratory testing is needed. Bundling computerized electronic orders for testing may improve adherence.

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2079. The Relation Between Panel Reactive Antibody Assay and Cytomegalovirus Reactivation in Seropositive Solid Organ Transplantation Recipients

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Session: 233. Diagnostics: Virology
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Background. Cytomegalovirus (CMV) can lead to severe morbidities and mortalities including pneumonia in particular as well as graft dysfunction through indirect immunomodulation in solid-organ transplantation recipients. High degree of HLA