Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. A new therapeutic monitoring of vancomycin for serious methicillin resistant *Staphylococcus aureus* infections guideline was published in March 2020. The guideline recommends a change in monitoring from trough to AUC/MIC based to improve patient outcomes. The purpose of this study was to determine institutional uptake of vancomycin AUC monitoring 1-year post guideline publication in hospitals across the U.S.

Methods. An electronic survey was created to assess vancomycin AUC monitoring practices and distributed to the American College of Clinical Pharmacy Infections Diseases Practice and Research Network (ACCP IDprn) and American Society of Health System Pharmacists (ASHP). Initial survey distribution (phase 1) occurred May-June 2020 and aimed to serve as baseline data. The survey was re-distributed (phase 2) to the ACCP IDprn and ASHP one year later, May-June 2021. Prior to re-distribution the survey was updated to assess the impact of COVID-19 on uptake. Results were analyzed and reported using descriptive statistics. Chi-Square tests were used to compare categorical data.

Results. A total of 202 responses to phase 1 and 138 responses to phase 2 were recorded. Significantly more respondents implemented AUC monitoring 1-year post guideline than at baseline (42.8% vs 29.8%, p= 0.013). In both phases, 57% of those who had not implemented AUC monitoring had plans to do so over the next year. Additionally, 46.2% phase 2 respondents reported COVID-19 impacted their ability to transition to AUC monitoring citing issues such as lack of time and inadequate resources. The most common AUC monitoring programs utilized at baseline and 1-year post guideline were purchased Bayesian software (38.3% vs. 35.6%) and homemade software (26.1% vs 23.7%). Perceived challenges to implementing AUC monitoring included cost, difficult use and integration.

Conclusion. Increased uptake of vancomycin AUC monitoring occurred from baseline to 1-year post guideline publication. However, less than half of hospitals implemented this recommendation. Although COVID-19 impacted a large portion respondents' ability to implement AUC monitoring, majority plan to transition to vancomycin AUC monitoring over the next year. AUC monitoring should be adapted by all hospitals to optimize vancomycin efficacy and safety.

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

176. Topical Antibiotic and Antiseptic Use in the Operating Room: An Opportunity for Antimicrobial Stewardship?

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Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Data suggest that topical antibiotic and antiseptic use in the operating room is common but not commonly monitored by antimicrobial stewardship programs. Although some data suggest a benefit in certain surgical procedures, the CDC and WHO advise against the routine use of topical antibiotics in surgery due to uncertainty and heterogeneity in the overall data.

Methods. We conducted a retrospective 28-day period prevalence study of topical antibiotic and antiseptic use during surgical procedures performed in the operating room by 6 surgical specialties at a tertiary care medical center. For the subset of patients undergoing orthopedic surgeries, we evaluated the types of topical antibiotics received and the rates of surgical site infections (SSI) and adverse drug events within 28 days of the procedure.

Results. Of 744 surgical procedures reviewed, topical antibiotics were used in 127 (17.1%), topical antiseptics in 71 (9.5%), and both in 18 (2.4%) (Table 1). Antiseptic use was higher in orthopedics relative to all other surgical specialties while topical antibiotic use was higher in neurosurgery. Hand, vascular and plastics had distinguishably lower use. In the orthopedic subgroup, after exclusions, 218 procedures were evaluated. Topical antibiotics were used in 42 (19.2%). Topical antibiotic therapy was more likely to be administered if prosthetic material was implanted, the procedure was emergent, or if a *Staphylococcus aureus* infection was present. Vancomycin was the most commonly used topical antibiotic and powder was the most commonly used type of application. As shown in table 2, SSI occurred more often when both topical antibiotics and antiseptics were applied; however, SSI events were relatively uncommon, and these were more likely to have infection present at the time of surgery. Adverse events were rare.

Table 1: Prevalence of topical antibiotic and antiseptic use by surgical specialty, No. (%)

Surgical specialty	Number of procedures	Use of topical antibiotics (alone or with topical antiseptics)	Use of topical antiseptics (alone or with topical antibiotics)	Use of both	Use of none
All services	744	127 (17.1)	71 (9.5)	18 (2.4)	564 (75.8)
Orthopedics	239	52 (21.8)	48 (20.1)	8 (3.3)	147 (61.5)
Podiatry	44	4 (9.1)	8 (18.2)	1 (2.3)	33 (75.0)
Neurosurgery	137	68 (49.6)	9 (6.6)	9 (6.6)	69 (50.4)
Hand	125	0 (0)	5 (4.0)	0 (0)	120 (96.0)
Vascular	79	2 (2.5)	0 (0)	0 (0)	77 (97.5)
Plastics	120	1 (0.8)	1 (0.8)	0 (0)	118 (98.3)

Table 2: Clinical outcomes within 28 days of procedure, No. (%)

	Number of procedures (n=218)	Topical antibiotic alone (n=42)	Topical antiseptic alone (n=36)	Both (n=11)	None (n=129)	P-value
Surgical site infection	9 (4.1)	3 (7.1)	0	**3 (27.3)**	3 (2.3)	0.004
Adverse event	2 (0.9)	0	1 (2.9)	0	1 (0.8)	0.424

Conclusion. In our institution we noted significant variability in use of topical antibiotic and antiseptic therapy among surgical specialties as well as within the orthopedic surgical specialty. Although opportunities to standardize use/nonuse of these therapies exist, this may be challenging due to the uncertainty and heterogeneity of currently available data.

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

177. User Preferences for Visualization of Antibiogram Data in Clinical Practice for Empiric Prescription of Antibiotics

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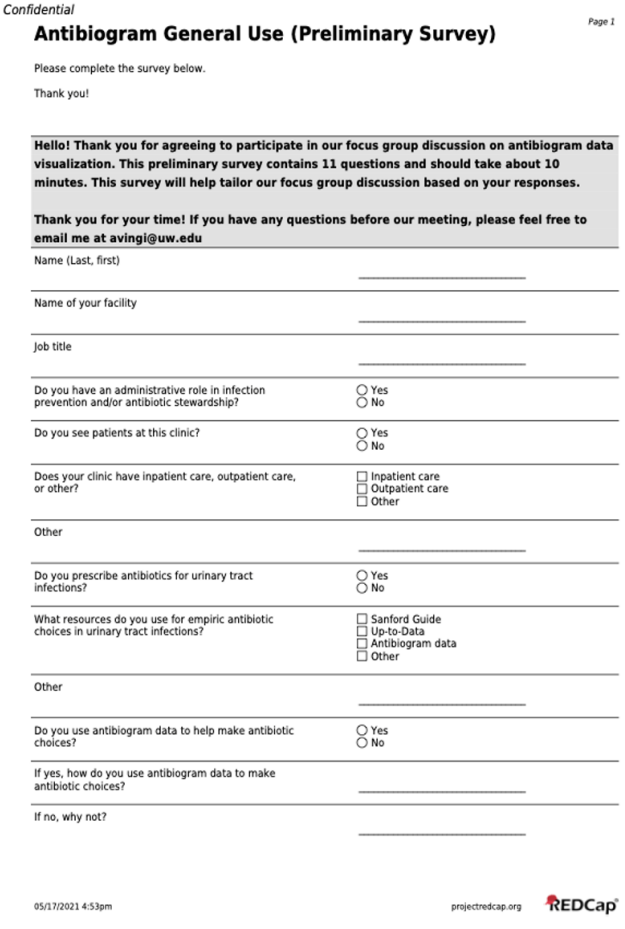
Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Antibiograms are widely used to present antibiotic susceptibility data, but user preferences for data visualization have received little attention. We report on a qualitative research study designed to gauge preferences for presenting antibiotic resistance data, with the goals of improving speed and effectiveness of prescribing empiric antibiotics in out-patient practices to meaningfully influence antibiotic stewardship programs.

Methods. Criteria for online focus groups included having the ability to prescribe antibiotics, practice in Washington state, and familiarity with antibiogram usage. A preliminary survey (Fig. 1) was sent to selected participants to understand their role in healthcare and their current attitudes towards antibiograms. During focus groups, we presented examples of 3 antibiograms: standard (Fig. 2A), color-coded for % susceptible (Fig. 2B), and color-coded for change in % susceptible from 2013 to 2016 (Fig. 2C).

Figure 1. Preliminary Survey via RedCap


Confidential

Page 1

Antibiogram General Use (Preliminary Survey)

Please complete the survey below.

Thank you!

Hello! Thank you for agreeing to participate in our focus group discussion on antibiogram data visualization. This preliminary survey contains 11 questions and should take about 10 minutes. This survey will help tailor our focus group discussion based on your responses.

Thank you for your time! If you have any questions before our meeting, please feel free to email me at avingi@uw.edu

Name (Last, first) _____

Name of your facility _____

Job title _____

Do you have an administrative role in infection prevention and/or antibiotic stewardship? ○ Yes ○ No

Do you see patients at this clinic? ○ Yes ○ No

Does your clinic have inpatient care, outpatient care, or other? ☐ Inpatient care ☐ Outpatient care ☐ Other

Other _____

Do you prescribe antibiotics for urinary tract infections? ○ Yes ○ No

What resources do you use for empiric antibiotic choices in urinary tract infections? ☐ Sanford Guide ☐ Up-to-Data ☐ Antibiogram data ☐ Other

Other _____

Do you use antibiogram data to help make antibiotic choices? ○ Yes ○ No

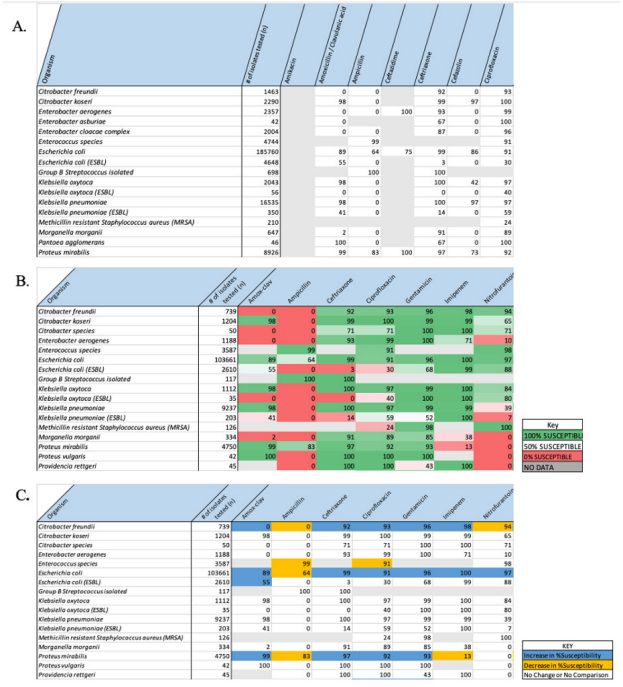
If yes, how do you use antibiogram data to make antibiotic choices? _____

If no, why not? _____

05/17/2021 4:53pm projectredcap.org REDCap

A preliminary survey via RedCap was sent all focus group participants to capture current attitudes towards antibiograms and antibiotic resistance data.

Figure 2. Presented antibiograms for focus group discussions using Quest Data. (A) Standard antibiogram for displaying % susceptibility. (B) Antibiogram color-coded for % susceptibility. (C) Antibiogram color-coded for change in % susceptibility, comparing 2013 data to 2016 data.



Results. Focus groups were held between October 2020 and March 2021. Participants were 44 years of age on average, with 6-23 years of experience in primary care and/or infectious disease practice. Eight of nine participants took the preliminary survey. The survey revealed that 5 (63%) participants used antibiograms in their practice. Most participants (7; 88%) preferred an online format to print out antibiogram tables. Discourse analysis from focus groups (n=3) revealed common themes regarding Figures 2A-C as examples of antibiograms. Key ideas included discussion of the data source and content, arrangement of the table, usability during clinical days, and efforts for antibiotic stewardship related to antibiogram use. All focus group participants (n=9) favored the feature of color-coding cells and found the data in the Fig. 2B user friendly. Consensus across all groups was that antibiogram tables would not be useful for daily practice. Clinicians would rather receive simplified therapy suggestions either in the patient laboratory report or in the electronic health system.

Conclusion. Antibiograms can be useful for visualization of empirical data but can become a more useful tool if they can be interpreted and simplified for guiding empiric prescribing in daily out-patient practice.

Disclosures. **Hema Kapoor, MD; D(ABMM)**, **Quest Diagnostics** (Employee, I am an employee of Quest Diagnostics and receive its stock as part of my employment.) **Ann Salm, M (ASCP), MSc, PhD**, **Quest Diagnostics** (Employee, I am an employee of Quest Diagnostics and receive its stock as part of my employment.)

178. Comparing the Incidence of Multidrug Resistant Bacteremia, Fungemia and Hospital-acquired *Clostridioides difficile* Infection in COVID-19 Versus Non-COVID-19 Patients: a Single Hospital, One-year Observational Study in New York City

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This abstract has been withdrawn.

179. Follow-up Blood Cultures for Gram-negative Bacilli Bacteremia Were Associated with Prolonged Length of Hospital Stay and Duration of Antibiotic Treatment: A Propensity Score-matched Cohort Study

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Session: P-10. Bacteremia

Background. It remains unclear if follow-up blood cultures (FUBCs) for Gram-negative bacilli (GNB) bacteremia should be performed routinely to document clearance of bacteremia due to lack of evidence on the value of FUBCs for GNB bacteremia.

Methods. We conducted a retrospective, multicenter observational study at 4 acute care hospitals to examine if FUBCs are associated with length of hospital stay, duration of antibiotic treatment, and mortality of hospitalized patients with GNB bacteremia. Participants included adult patients who were hospitalized between January 2017 and December 2018 with GNB bacteremia. Patients with and without FUBCs were propensity score-matched with a 1:1. The primary outcomes were in-hospital mortality, length of hospital stay, and duration of antibiotic treatment during the hospital stay.

Results. Of the 442 hospitalized adult patients with GNB bacteremia, 381 were included in the study. Of those, FUBCs were performed in 276 patients (72%). After propensity score matching, we included 87 patients with FUBCs and 87 patients without FUBCs for comparing outcomes. The median length of stay was longer in patients with FUBCs (9 days [interquartile range, 6.0–14.0]) compared with patients without FUBCs (7 days [interquartile range, 4.5–10.5]; P=0.017). The median duration of antibiotic treatment was also longer in patients with FUBCs (8 days [interquartile range 5.5–13.0]) compared with patients without FUBCs (6 days [interquartile range, 4.0–10.0]; P=0.007). No statistically significant difference was observed in in-hospital mortality between patients with and without FUBCs (adjusted odds ratio = 0.37; 95% confidence interval, 0.081–1.36).

Conclusion. Performing FUBCs for GNB bacteremia were associated with prolonged length of hospital stay and duration of antibiotic treatment but not with mortality.

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180. Duration of Therapy and Clinical Outcomes in Adult Oncology Patients with Uncomplicated Coagulase Negative Staphylococcal Bacteremia

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Session: P-10. Bacteremia

Background. Although they are often considered contaminants, coagulase negative staphylococci (CoNS) can be pathogens especially in immunocompromised patients. National and local guidelines recommend treatment durations of 7 to 14 days, depending on specific clinical scenarios. The objective was to characterize the duration of treatment for CoNS bacteremia and clinical outcomes at our cancer center.

Methods. We conducted a retrospective chart review of adult patients ≥18 years old with ≥1 blood culture with growth of CoNS between 1/1/17 and 12/31/19 at our cancer center. Patients with complicated CoNS bacteremia and polymicrobial infections were excluded.

Results. Among 128 patients identified during the study period, 98 met inclusion criteria (Figure 1). Most patients (N= 92; 94%) had a hematologic malignancy as the underlying oncologic diagnosis, and 68 (69%) were hematopoietic stem cell transplant recipients. The median total antibiotic duration was 13 days, and median duration from the date of 1st negative blood culture was 12 days; 29 (30%) patients were treated for a total duration of >14 days (Figure 2). The catheter was retained in 67 (68%) and exchanged in 4 (4%) of the cases. Three (3%) patients had recurrence of bacteremia within 30 days of treatment completion, and 8 (8%) patients were transferred to the ICU within 7 days of the index blood culture. The 30-day crude mortality rate was 10%. The most commonly used antibiotic for treatment was vancomycin (N= 95; 97%), and 32 (34%) patients on vancomycin had an increase in serum creatinine of ≥ 50% from baseline. Five (5%) patients discontinued vancomycin due to nephrotoxicity, and 4 (4%) patients required hemodialysis.

Figure 1. Results Overview