Conclusion: The current study demonstrates multiple opportunities to improve antibiotic use in ALFs, including: 1) specification of indication for the antibiotic; 2) reducing unnecessary antibiotic treatments; 3) shortening durations of treatments; and 4) reducing use of broad-spectrum antibiotics. Studies on interventions that target these areas are needed.

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247. Validation of the Use of Oral Vancomycin Following Positive Admission Screening Testing for *C. difficile*

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Session: P-8. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background: *Clostridioides difficile* can cause a severe infectious colitis and is often associated with significant morbidity and mortality. *C. difficile* infection (CDI) is defined as the presence of diarrhea plus a positive stool test, whereas *C. difficile* colonization is defined as a positive stool test in the absence of diarrhea or the presence of diarrhea attributable to causes other than CDI. Widespread use of stool polymerase chain reaction (PCR) testing, especially within the first 3 days of admission, has become common at our institution and has been associated with increased number of positive *C. difficile* tests results. However, *C. difficile* colonization rates may be 15% or higher. Oral (PO) vancomycin (vanc) is first line therapy for the treatment of CDI. We sought to evaluate the appropriateness of use of PO vanc in patients who tested positive for *C. difficile* via stool PCR within 3 days of admission.

Methods: We reviewed the clinical history, presence of diarrhea, risk factors for diarrhea, treatment and use of an infectious disease (ID) consultation for all patients 18 years of age or older found to test positive for *C. difficile* by PCR on stool assays during the first 3 days of admission from 07/01/18 to 12/31/18.

Results: A total of 228 patients met inclusion criteria. 183 (80%) received PO vanc while 45 (20%) did not. 131 (71.6%) of patients who received PO vanc had diarrhea, 39 (21.3%) did not have diarrhea, 13 (7.1%) the presence of diarrhea was unknown. 41 of 143 (28.7%) of patients without ID consults received PO vanc despite not having diarrhea, while 11 of 40 (27.5%) patients seen by ID received PO vanc despite not having diarrhea (p=0.888).

Conclusion: Most patients who tested positive for *C. difficile* received PO vanc had documented diarrhea, meeting the definition of CDI. However, over 1 in 5 (21.3%) of patients who received PO vanc did not have diarrhea and may have been colonized rather than have true CDI. ID consultation did not decrease the number of patients without diarrhea who received PO vanc or prevent treatment of colonized patients. This work reveals there may be an opportunity for improvement regarding management of CDI vs. *C. difficile* colonization which may enhance antibiotic stewardship and the appropriate use of PO vanc.

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248. Why so Much Vancomycin and Piperacillin/Tazobactam Usage Given Known Risks of Nephrotoxicity

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Session: P-8. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background: Despite years of published data describing the increased risk of nephrotoxicity with use of vancomycin and piperacillin/tazobactam (VPT), this combination remains one of the most utilized antibiotic combinations at our institution. There is limited data describing the appropriateness of empiric use of this broad-spectrum regimen. Our primary objective was to evaluate the appropriateness of the anti-methicillin resistant *Staphylococcus aureus* (MRSA), anti-pseudomonal, and anti-anaerobic spectrum of activity for patients empirically treated with this combination. Our secondary objective was to evaluate the appropriateness of diagnostic evaluation in patients started on this combination.

Methods: A retrospective cohort study was performed on a random sample of unique patients prescribed the combination of VPT from October 2019 through March 2020. Demographic and clinical data were abstracted from the electronic medical record. Based on predetermined criteria, we evaluated the appropriateness of the spectrum of activity of empiric therapy and the diagnostic evaluation.

Results: Of 100 patients evaluated, 96 patients (96%) received VPT as empiric treatment. The indications for use are shown in Table 1. Pneumonia and soft tissue/

bone/joint infections were the most common indications. The appropriateness of anti-MRSA, anti-pseudomonal, and anti-anaerobic therapy is shown in Table 2. In only 35% of patients was the full spectrum of activity appropriate. Of 47 patients treated empirically for pneumonia, 35 (74%) had an order for a respiratory culture and 7 (15%) for a nasal MRSA surveillance culture. Of 30 patients treated empirically for soft tissue/joint infections, wound cultures were obtained in 22 (73%). Nineteen patients underwent surgical intervention, of whom 17 (89%) had cultures obtained.

Table 1. Indications for Empiric Vancomycin and Piperacillin/tazobactam Combination Therapy

Table 1: Indications for Empiric Vancomycin and Piperacillin/Tazobactam Combination Therapy

Indication	n
Pneumonia	47
Community Acquired Pneumonia	25
Hospital-/ Ventilator Acquired Pneumonia	19
Empyema	3
Skin and Soft Tissue/ Bone/ Joint Infection	30
Osteomyelitis	8
Non-Purulent Cellulitis	6
Ulcer/ Wound Infection	6
Abscess/ Perirectal Abscess	5
Necrotizing Soft Tissue Infection	2
Hardware Infection	1
Preseptal Cellulitis	1
Cat Bite	1
Bacteremia	10
Intra-abdominal Infection	5
Sepsis	2
Fever	5
Urosepsis/ Pyelonephritis/ Urinary Tract Infection	3
Central Nervous System Infection	2
Sinusitis	2
Implantable Cardioverter Defibrillator Infection	1

* Some patients had more than 1 indication

Table 2: Appropriateness of Spectrum of Activity for Empiric Vancomycin and Piperacillin/tazobactam Combination Therapy

Table 2: Appropriateness of Spectrum of Activity for Empiric Vancomycin and Piperacillin/Tazobactam Combination Therapy

	MRSA + PSDA* + Anaerobes	MRSA	PSDA	Anaerobes
Appropriateness of spectrum of activity, N (%)	34 (35.4%)	65 (67.7%)	71 (74.0%)	43 (44.8%)

*Pseudomonas aeruginosa

Conclusion: At our institution VPT use was usually empiric and unnecessarily broad for the syndrome being treated. Microbiologic testing was suboptimal and may have resulted in prolonged therapy. Although interventions aimed at de-escalating VPT are useful, interventions aimed at ensuring appropriate empiric use of this combination and ensuring appropriate diagnostic testing may be just as important.

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249. A metabolomic study of patients with *A. baumannii* bacteremia

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Session: P-9. Bacteremia

Background: *A. baumannii* has become an emerging pathogen of health-care-associated infection with significant mortality. The present study aimed to identify specific biomarkers to predict patient survival of *A. baumannii* bacteremia by metabolomics.

Methods: From July 2011 to November 2014, a total of 60 patients with *A. baumannii* bacteremia and available blood samples within 4 days of the onset (Day 0) of bacteremia were included for analysis. They were categorized into two groups depending on their survival at Day 14. Metabolomic profiles of the blood specimens collected at Day 0-4 of survival and death groups were compared to identify specific biomarkers to predict patient survival at Day 14. The patients were divided in the training (n=40) and validation (n=20) sets, and the logistic regression-based receiver-operating characteristic (ROC) was used to find the potential markers.

Results: The Day 14 mortality of the included patients was 20.0% (12/60). The partial least square-discriminate analysis (PLS-DA) scores plot separated the survival and death groups (Figure 1). Thirteen metabolites, L-Isoleucine, Ofloxacin, P-Hydroxybenzaldehyde, Hippurate, Indolelactic acid, Kynurenate, N-Acetyl-L-alanine, Sebacic acid, N-Acetylglutamic acid, Hematoporphyrin IX, and Urocanic acid reached the statistical significance (p < 0.05) and the accuracies of training and validation sets were greater than 0.8 and 0.6, respectively (Figure 2 and Table 1). Moreover, the Wilcoxon rank sum test results of those metabolites reached the statistical significance (Table 1).