Fever with neutropenia (FN) is common and the timing of antibiotic cessation in patients without an identified fever source is uncertain. Absolute neutrophile count (ANC) recovery has been used clinically to represent bone marrow recovery (BMR) but other options should be considered. We hypothesized that absolute monocyte count (AMC), and absolute phagocyte count (APC) are more sensitive, and an earlier safe marker of antibiotic cessation (AC) compared with ANC.

Methods. A retrospective review was performed for FN episodes (FNEs) at UCM Comer Children’s Hospital between 2009 and 2016 in pediatric oncology patients. Eligible FNEs who were a febrile for 24 hours, had no bacterial source identified at time of AC, and did not receive chemotherapy 10 days following AC. Ten-day post-AC antibiotic cessation in patients without an identified fever source is uncertain. Absolute neutrophile count (ANC) recovery has been used clinically to represent bone marrow recovery (BMR) but other options should be considered. We hypothesized that absolute monocyte count (AMC), and absolute phagocyte count (APC) are more sensitive, and an earlier safe marker of antibiotic cessation (AC) compared with ANC.

Results. A total of 386 patients are included (76 in “Phase 1” and 310 in “Phase 2”). Patient characteristics are similar (Table 1). Overall, 6% of FQ use was empiric, and 50% FQ use was deemed “appropriate”, 28% “appropriate but not preferred”, and 22% “inappropriate”. In “Phase 2”, 126 interventions were conducted, with 86% of these accepted. Appropriate FQ use increased significantly in “Phase 2” vs. “Phase 1” (53.5% vs 22% “inappropriate” FQ use 2-3 days per week and an IDF provided feedback interventions that averaged 30-60 minutes of IDF time spent per day. We categorized FQ use as either: “appropriate” , “appropriate but not preferred” , or “inappropriate” , as determined by local clinical guidelines and ASP team opinion. We compared FQ use in both phases, indications for FQ use, and new CDIs occurred.

The study found that the IDF-driven ASP intervention had a positive impact on appropriate use of FQs in our hospital. This highlights a promising ASP model which not only improves appropriate use of FQ, but also offers an opportunity for IDF mentorship and use of available resources to promote ASPs.

Conclusion. An IDF-driven ASP intervention has a positive impact on appropriate use of FQs in our hospital. This highlights a promising ASP model which not only improves appropriate use of FQ, but also offers an opportunity for IDF mentorship and use of available resources to promote ASPs.

Disclosures. Katie A. McCrink, PharmD, ViiV Healthcare (Employee)

Table 2: “Appropriate” Fluoroquinolone Use by Clinical Indication

| Clinical Indication for Fluoroquinolone | Phase 1 N=76 | Phase 2 N=310 | Total N=386 |
|----------------------------------------|--------------|--------------|-------------|
| Bacteremia/intravascular infection      | 2            | 14           | 16          |
| Endophthalmitis                         | 3            | 13           | 16          |
| Epidermomyociths                        | 0            | 1            | 1           |
| HAP/VAP                                | 0            | 24           | 24          |
| Intra-abdominal infection               | 2            | 12           | 14          |
| Joint infection                         | 0            | 2            | 2           |
| Neutropenic fever                       | 0            | 2            | 2           |
| Osteomyelitis                           | 0            | 6            | 6           |
| Otis externa/Mastoiditis                | 0            | 7            | 7           |
| Prophylaxis                             | 10           | 42           | 52          |
| Pulmonary tuberculosis                  | 0            | 3            | 3           |
| Skin/soft tissue                        | 0            | 20           | 20          |
| Unknown                                | 0            | 1            | 1           |
| UTI                                    | 10           | 18           | 28          |
| Total                                  | 27           | 166          | 193         |

Table 1: Baseline Patient Characteristics and Characteristics of Fluoroquinolone Use

| Baseline Characteristics | Phase 1 (N=76) | Phase 2 (N=310) | Total (N=386) |
|--------------------------|---------------|----------------|--------------|
| Median Age (Range)       | 54 (18-84)    | 57 (19-89)     | 56 (18-89)   |
| Race (Black)             | n (%)         | n (%)          | n (%)        |
| Asian                    | 21 (27.6)     | 26 (81.2)      | 47 (12.2)    |
| Black                    | 21 (27.6)     | 26 (81.2)      | 47 (12.2)    |
| Male                     | 21 (27.6)     | 26 (81.2)      | 47 (12.2)    |
| Diabetes mellitus        | 25 (32.9)     | 38 (12.2)      | 63 (16.8)    |
| End Stage Renal Disease  | 0 (0)         | 7 (2.3)        | 7 (2.3)      |
| Advanced Liver Disease   | 14 (18.4)     | 15 (4.8)       | 29 (7.6)     |
| Congestive Heart Failure | 5 (6.6)       | 36 (11.6)      | 41 (10.7)    |
| COPD                     | 11 (14.5)     | 36 (11.6)      | 46 (12.1)    |
| Malignancy               | 11 (14.5)     | 36 (11.6)      | 46 (12.1)    |
| Immunocompromised        | 11 (14.5)     | 36 (11.6)      | 46 (12.1)    |
| Penicillin Allergy       | 18 (23.7)     | 66 (21.2)      | 84 (21.8)    |
| Advanced Liver Disease   | 14 (18.4)     | 35 (11.2)      | 49 (12.9)    |
| Congestive Heart Failure | 5 (6.6)       | 36 (11.6)      | 41 (10.7)    |
| COPD                     | 11 (14.5)     | 36 (11.6)      | 46 (12.1)    |
| Malignancy               | 11 (14.5)     | 36 (11.6)      | 46 (12.1)    |
| Immunocompromised        | 11 (14.5)     | 36 (11.6)      | 46 (12.1)    |
| Penicillin Allergy       | 18 (23.7)     | 66 (21.2)      | 84 (21.8)    |
| Empirc Quinolone Use     | 57 (75)       | 158 (50.7)     | 215 (55.9)   |

64. Absolute Monocyte Count (AMC) as Early and Safe Marker for Discharge in Low-risk Pediatric Febrile Neutropenia with Cancer

Table 1. Patient Characteristics and Endpoints

| No-OVP (n = 32) | OVP (n = 38) | P-value |
|----------------|--------------|---------|
| Age, Median (IQR) | 58 (50 - 78) | 54 (57 - 73) | 0.342 |
| Female, n (%)     | 16 (44)      | 20 (53)  | 0.634 |
| Index CDI Severity, n (%) | 21 (61) | 7 (18) | 0.216 |
| Mild to moderate | 9 (29)       | 18 (47)  |            |
| Severe            | 0            | 0        |            |
| Index CDI treatment, n (%) | 23 (66) | 2 (5) | 0.641 |
| Vancomycin        | 20 (63)      | 23 (66)  |            |
| Fidaxomycin       | 2 (6)        | 2 (5)    |            |
| Endpoints, n (%)  | 3 (9)        | 2 (5)    | 0.654 |
| VRE isolation     | 2 (6)        | 2 (5)    | 1         |
| CRI recurrence     | 3 (9)        | 3 (8)    | 1         |

S150 • OFID 2021:8 (Suppl 1) • Abstracts
Results. A total of 928 FN episodes (FNEs) were identified. 391 eligible FNEs occurred in 335 patients. Three groups were compared based on ANC (cells/μL) at the time of AC: < 200 in 102 (26%), 200-500 in 111 (28%), and >500 /μL in 176 (46%) (Figure 1) with an overall ten-day recurrent fever rate 7.4% (29/391) and readmission rate of 5.6% (22/391). No significant differences in recurrent fever rates were identified across the three ANC groups (10%,4.5%, 4%, respectively; P=0.07)(Table 1).In subset analysis of AMC for each ANC group, patients with AMC >100 /μL regardless of ANC/uL, de-labeled in 75% (N=6) of those cases. In the historical cohort, the time of AC : < 200 in 102 (26%), 200-500 in 111 (28%), and >500 /μL in 176 (46%) (Figure 1) with an overall ten-day recurrent fever rate 7.4% (22/391) and readmission rate of 5.6% (22/391). No significant differences in recurrent fever rates were identified across the three ANC groups (10%,4.5%, 4%, respectively; P=0.07)(Table 1).In subset analysis of AMC for each ANC group, patients with AMC >100 /μL regardless of ANC/uL, de-labeled in 75% (N=6) of those cases. In the historical cohort, de-labeled in 75% (N=6) of those cases.

Conclusion. Implementation of a β-lactam side-chain-based cross-reactivity chart significantly increased the utilization of β-lactams in patients with pneumonia without increasing HSRs.

Disclosures. All Authors: No reported disclosures

66. Improving Antimicrobial Stewardship through Allergy Testing Referrals
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Session: P-04. Antimicrobial Stewardship: Outcomes Assessment (Clinical and Economic)

Background. Penicillins and cephalosporins (PCN/CEPH) are considered first-line antibiotics for numerous infections for their efficacy, tolerability, and cost-effectiveness. Unfortunately, their use may be precluded in approximately 10% of the general adult population who self-report ‘allergy’. As a result, suboptimal antimicrobials are prescribed for patients with β-lactam allergy. As a result, suboptimal antimicrobials are prescribed for patients with β-lactam allergy. As a result, suboptimal antimicrobials are prescribed for patients with β-lactam allergy.

Methods. Adult inpatients for whom an infectious disease consult was requested from the primary care setting. Qualitative review of selected patients highlights common thematic barriers including the COVID-19 pandemic, fiscal concerns, and acuity of condition. Future directions should include BLAST at the point of care or making referrals from the primary care setting.

Conclusions. Our results suggest that a AMC > 100 /μL, regardless of ANC/uL, is a safe threshold value for empiric AC and discharge. This approach may shorten length of stay, reduce burden of cost of febrile neutropenia cost and potential long term antimicrobial side effects.

Disclosures. Laura Danziger-Isakov, MD, MPH, Ansun (Individual(s) Involved: Self); Scientific Research Study Investigator; Astellas (Individual(s) Involved: Self); Scientific Research Study Investigator; Merck (Individual(s) Involved: Self); Consultant; Scientific Research Study Investigator; Pfizer (Individual(s) Involved: Self); Scientific Research Study Investigator; Shire (Individual(s) Involved: Self); Consultant; Scientific Research Study Investigator; Viraco: Grant/Research Support

65. Impact of an Antibiotic Side-Chain-Based Cross-Reaction Chart on Antibiotic Use in Patients With β-lactam Allergies and Pneumonia
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Session: P-04. Antimicrobial Stewardship: Outcomes Assessment (Clinical and economic)

Background. β-lactam antibiotics with dissimilar R-group side chains are associated with low cross-reactivity. Despite this, patients with β-lactam allergies are too often treated with alternative antibiotic therapy. An institutional β-lactam side-chain-based cross-reaction chart was developed and implemented to guide in antibiotic selection for β-lactam allergies patients.

Methods. This single center, retrospective, cohort study conducted analysis the impact of the implementation of the cross-reaction chart for patients with documented β-lactam allergies with pneumonia. Study time periods were defined as January 2013 to October 2014 prior to implementation of the chart (historical cohort) and January 2017 to October 2018 (intervention cohort) following institutional implementation and adoption. The primary outcome was the incidence of β-lactam utilization between time periods. Propensity-weighted scoring and interrupted time-series analyses compared outcomes across time periods.

Results. A total of 341 and 203 patient encounters were included in the historical and intervention cohorts, respectively. There was a significant increase in the use of β-lactams for treatment of pneumonia (70.4% vs 89.3%; p < 0.001) and the use of any alternative therapy decreased between cohorts (58.1% vs 36%; p < 0.001) (Figure 1). Implementation per patient significantly improved between cohorts in patients with mild, Type 1 IgE-mediated hypersensitivity reactions (HSRs) and in patients with unknown reactions. There was no difference in overall HSRs between cohorts (2.4% vs 1.45; p = 0.628), or in patients who received β-lactam antibiotics (1.3% historical group vs 1.1% intervention group; p = 0.467). Median alternative antibiotic days of therapy (3 vs 2; p = 0.027) and duration of therapy per patient (3 days vs 2 days; p = 0.023) decreased between cohorts. There was a significant increase in mortality while health-care facility-onset Clostridioides difficile infections decreased between cohorts.

Conclusion. This single-center, retrospective, cohort study conducted analysis the impact of the implementation of the cross-reaction chart for patients with documented β-lactam allergies with pneumonia. Study time periods were defined as January 2013 to October 2014 prior to implementation of the chart (historical cohort) and January 2017 to October 2018 (intervention cohort) following institutional implementation and adoption. The primary outcome was the incidence of β-lactam utilization between time periods. Propensity-weighted scoring and interrupted time-series analyses compared outcomes across time periods.