Antibiotics are commonly administered in the peripartum period and most patients with penicillin allergy can tolerate beta lactams, which are preferred for the prophylaxis and treatment of several common obstetric infections. The purpose of this study was to evaluate the impact of a stewardship intervention bundle (including updates to institutional antibiotic guidelines, reclassification of severe penicillin allergy, development of order sets, and a physician champion) on the management of obstetric infections in patients with reported penicillin allergy.

Methods. This was a multicenter, retrospective study of adult patients presenting for labor and delivery who received at least one dose of antibiotics for an infectious indication May 1, 2018 to October 31, 2018 (pre-intervention) and May 1 2020 to October 31, 2020 (post-intervention). The primary outcome was the composite rates of postpartum endometritis, mainly by patients with non-severe allergy (18.4% vs 82.9%, P< 0.001). There were non-statistically significant trends toward lower rates of postpartum endometritis, 30-day readmission, 90-day SSI, and neonatal early onset sepsis. Allergic reactions in the post-intervention group were limited to itching and rash in one patient each; both resolved with medical management.

Results. A total of 192 patients with a documented penicillin allergy were evaluated (96 patients each in pre- and post-intervention groups). Hives were the most commonly reported allergy in both groups (40% vs 39%, P=0.883). Following stewardship interventions, there was a significant increase in the rate of preferred antibiotic prescribing for treatment and prophylaxis of obstetric infections. Patients admitted between January 1, 2013 to September 1, 2020 with a reported allergy of “anaphylaxis” to an agent in the penicillin class who received at least one dose of cefazolin, cephalexin, or aztreonam were included. Aztreonam patients.

Conclusion. A comprehensive antibiotic stewardship intervention increased preferred antibiotic prescribing for treatment and prophylaxis of obstetric infections. Pregnant patients with non-severe penicillin allergies, even those reporting hives, can tolerate beta-lactam antibiotics. The potential positive impact on clinical outcomes warrants additional investigation.
the cephalosporin and aztreonam groups, respectively (3% vs. 11%, p=0.082, 20% vs. 12%, p=0.451). Because cephalaxin has a similar R1 side chain to aminopenicillins, five patients had an aminopenicillin allergy who received cephalaxin were evaluated separately; none had an allergic reaction (Table 1, Table 2, Figure 2).

Table 1: Baseline Characteristics

| Antimicrobial Category | Cephalosporin (n = 31) | Aztreonam (n = 19) |
|------------------------|------------------------|-------------------|
| Allergic reactions     | 11 (14%)               | 9 (47%)           |
| LGE-mediated reactions | 11 (14%)               | 8 (42%)           |
| Antibiotic dosages     | 0%                     | 0%                |
| 10-day readmission for delayed hypersensitivity reaction | 0% | 0% |
| Allergic reactions     | 2 (6%)                 | 3 (16%)           |
| LGE-mediated reactions | 2 (6%)                 | 3 (16%)           |
| Antibiotic dosages     | 2 (6%)                 | 3 (16%)           |
| 10-day readmission for delayed hypersensitivity reaction | 2 (6%) | 3 (16%) |

Of the patients who had allergic reactions in the cephalosporin and aztreonam groups, these included immediate airway compromise, hypotension with one patient in the aztreonam group receiving vasopressors within the pre-defined time frame, receipt of the non-standing rescue medication of diphenhydramine, and drug rash.

Conclusion. There was no difference in the incidence of allergic reactions between the aztreonam and first-generation cephalosporin group, and fewer severe anaphylactic reactions occurred in the cephalosporin group. This study suggests that cephalaxin and cephalaxin can safely be used in patients who report anaphylaxis to an agent in the penicillin class.

Disclosures. Janessa Smith, PharmD, Merc & Co. (Employee)

144. Clinical Validation and Performance of a T-cell Immunosequencing Assay to Identify Past SARS-CoV-2 Infection

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Background. Our understanding of the SARS-CoV-2 immune response has critical gaps that are inadequately addressed with available tools. We report the clinical performance of T-Detect COVID, the first T-cell assay to identify prior SARS-CoV-2 infection using T-cell receptor (TCR) sequencing and repertoire profiling from whole blood samples.

Methods. The T-Detect COVID assay combines high-throughput immunosequencing of the TCRß gene from blood samples with a statistical classifier demonstrating 99.8% specificity for identifying prior SARS-CoV-2 infection. The assay was employed in several retrospective and prospective cohorts to assess primary and secondary Positive Percent Agreement (PPA) with SARS-CoV-2 RT-PCR (N=205; N=77); primary and secondary Negative Percent Agreement (NPA, N=87; N=79); PPA compared to SARS-CoV-2 serology (N=55); and pathogen cross-reactivity (N=38).

The real-world performance of the test was also evaluated in a retrospective review of test ordering (N=69) at a single primary care clinic in Park City, Utah.

Results. In validation studies, T-Detect COVID demonstrated high PPA (97.1% at 5 days from diagnosis) in subjects with confirmed past SARS-CoV-2 infection; high NPA (~100%) in SARS-CoV-2 negative cases; equivalent or superior PPA compared to two commercial EUA antibody tests; and no evidence of pathogen cross-reactivity.

Conclusion. A T-cell immunosequencing assay shows high clinical performance for identifying past SARS-CoV-2 infection from whole blood samples. This assay can provide additional insights on past SARS-CoV-2 immune response, with practical implications for clinical management, risk stratification, surveillance, assessing vaccine immunity, and understanding long-term sequelae.

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145. SARS-CoV-2 (COVID-19) Testing Experience within a Military Treatment Facility

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