Our objective was to examine whether an PCT algorithm compared with standard practice would reduce antibiotic exposure in patients with LRTI [pneumonia and acute exacerbations of chronic obstructive pulmonary disease (AECOPD)] in an American urban academic hospital.

Methods. From April 17, 2017 until November 1, 2017, consecutive patients admitted to a medicine service were enrolled in the PCT intervention if they were receiving antibiotics for LRTI and gave consent. Providers were encouraged to discontinue antibiotics using a PCT algorithm with predefined cutoffs. Serum PCT was measured in the hospital laboratory once daily. Results and recommendations were communicated to providers by study team and in the medical record. Control patients were selected by reviewing charts for patients admitted to a medicine service for LRTI from December 1, 2016 to April 16, 2017. The primary endpoint was median antibiotic duration. Overall adverse outcomes at 30 days comprised death, transfer to an intensive care unit, antibiotic side effects, *Candida difficile* infection, disease-specific complications, and new antibiotic prescription for LRTI after discharge.

Results. 174 patients were enrolled in the intervention group and 200 patients in the control group. Intervention group providers complied with the PCT algorithm in 75% of encounters. The rate of overall adverse outcomes was similar in PCT and control groups (21.8% vs. 23.5%; difference, –0.02; 95% CI, –0.10 to 0.07). PCT-guided therapy reduced the median antibiotic duration for pneumonia from 7 days to 6 (P = 0.65), and AECOPD from 4 days to 3 (P = 0.01). Noncompliance with the PCT algorithm developed in 260 excess antibiotic days in 44 patients.

Conclusion. In our center, 75% adherence to a PCT-guided algorithm safely reduced the duration of antibiotics for treating LRTI. Incentivizing providers to comply with PCT-guided algorithms could lead to further reductions in antibiotic use.

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1969. Comparison of Adverse Event Rates Between Patients Treated With Cefaroline or Ceftriaxone

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Session: 227. Clinical Trials
Saturday, October 6, 2018: 12:30 PM

Background. At the VA St. Louis Health Care System 17.3% of patients treated with cefaroline developed an adverse drug reaction (ADR). This evaluation compares ADR rates between patients treated with cefaroline and those treated with ceftriaxone. Methods. This was a retrospective, single-center cohort study of patients treated with cefaroline or ceftriaxone at the VA St. Louis Health Care System between October 29, 2010 and March 28, 2017. Patients included received at least two doses of either medication and were treated for osteomyelitis, acute bacterial skin and skin structure infections, blood stream infections, pneumonia, infective endocarditis, septic arthritis, pneumonia, joint infections, or an empyema. Once identified, patients were matched 1:1 utilizing the nearest neighbor method accounting for age, indication, and duration of therapy. The primary and secondary outcomes were the composite of any ADR while on therapy and any ADR leading to therapy discontinuation, respectively. Adverse reactions evaluated were rash, neutropenia, acute kidney injury, eosinophilia, thrombocytopenia, transaminits, and hyperbilirubinemia.

Results. There were 75 unique cefaroline-treated and 312 ceftriaxone-treated patients identified. After propensity score matching, 50 patients per group were included and analyzed. The mean age of patients was 65.4 and 63.4 years (P = 0.47) and the mean duration of therapy was 14.5 and 17 days (P = 0.90). cefaroline compared with ceftriaxone respectively. Any ADR occurred in 20% (10/50) of patients treated with cefaroline and 16% (8/50) of patients treated with ceftriaxone (P = 0.60). One patient (2%) treated with cefaroline and 16% (8/50) treated with ceftriaxone had therapy discontinued for an ADR (P = 0.03). The most common ADR was eosinophilia (3/50) in the cefaroline group and rash (5/50) in the ceftriaxone group. In multivariate regression, cefaroline therapy was identified as an independent risk factor for development of an ADR requiring discontinuation (OR 10.2; 95% CI 1.19–87.8; P = 0.03).

Conclusion. There was no difference in the development of any ADR between patients treated with cefaroline or ceftriaxone, but patients treated with cefaroline had more ADRs leading to therapy discontinuation.

Disclosures. All authors: No reported disclosures.
1971. A Randomized, Double-Blind, Placebo-Controlled Trial to Assess the Safety and Tolerability of a Respiratory Syncytial Virus (RSV) Neutralizing Monoclonal Antibody (MK-1654) in Healthy Subjects

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Session: 227. Clinical Trials
Saturday, October 6, 2018: 12:30 PM

**Background.** Respiratory syncytial virus (RSV) is the most common cause of lower respiratory tract infection and hospitalization in infants. Prophylaxis for RSV infection is only recommended for the highest risk infants, leaving the majority of infants unprotected. MK-1654 is a fully human monoclonal antibody targeting the RSV fusion (F) protein with Fc domain mutations to extend half-life that is being developed to provide passive immunity against RSV in infants. The safety profile, development of anti-drug antibodies (ADAs), serum neutralizing antibody (SNA) titers, and pharmacokinetics (PK) in healthy adult volunteers receiving single-ascending doses of MK-1654 was evaluated.

**Methods.** In this double-blinded ongoing Phase 1 study, healthy adults of \( \geq \) 18 years of age were randomized in a 3:1 ratio to receive a single dose of MK-1654 or placebo (0.9% sodium chloride injection, USP) as a bolus intramuscular injection (IM) or in an intravenous infusion (IV) for at least 2.5 hours. Dose levels included 100 and 300 mg IM, and 300, 1,000, and 3,000 mg IV. Standard methods were used to assess safety and tolerability. Serum was tested for ADAs and RSV SNA titers at time points up to day 120 and up to day 90, respectively. MK-1654 adult PK and estimated PK for infants will be reported separately.

**Results.** A total of 152 subjects (male = 117, female = 35) have been enrolled (mean age = 41 years). No deaths, serious adverse events, discontinuations due to AEs, clinically significant laboratory AEs, or dose-dependent pattern of drug-related AEs were reported. Sixty-six subjects reported 181 clinical AEs (97.8% mild and 2.2% moderate in intensity). The most common AEs (25%) were headache, nasal congestion, vessel puncture site hemorrhage, oropharyngeal pain, rhinorrhea and nausea. No treatment emergent ADAs have been identified through time points tested. Administration of MK-1654 resulted in a dose-dependent increase in RSV A SNA titers through Day 90 (figure). Updated safety, SNA titers and ADAs will be provided.

**Conclusion.** MK-1654 was generally well tolerated at doses up to 300 mg IM and up to 3,000 mg IV and resulted in a dose-dependent increase in SNA titers, reflecting biologically active MK-1654 in the serum. No treatment emergent ADAs have been observed.