influenza (H1) 15.4% (33.3% nonypical H1), B-hemolytic Streptococci Group A 1.5% and Neisseria meningitidis 0.7%. Seventy-one percent of cases had complications (pleural effusion 63%, necrotizing pneumonia 11.1%, pneumothorax 8.1%, lung abscess 3.7%, atelectasis 0.7%). Other clinical manifestations combined with CAPB were: sepsis 20%, cellulitis/abscess 9.6%, arthritis 6.7%, meningitis 5.9% and osteomyelitis 5%. Consideration was the predominant radiological pattern for all agents in 88.1%. Lethality rate was 3%. Sp was more associated with age ≥24 months (OR = 2.78 (1.18–6.64)) and Hi was more associated with age <24 months (OR = 4.76 (1.62–14.31)). Complications were significantly higher among Sa pneumoniae cases. Children with CAPB and sex had an or higher lethality [OR = 13.38 (1.14–355.45) and OR = 17.71 (1.46–223.73)], respectively.

Conclusion. After PCV13 introduction Sp was still the most common organism causing CAPB, mainly in ≥24 months age. So followed in frequency with high mor- bidity. CAPB combined with other clinical manifestations were more associated with lethality.

Disclosures. All authors: No reported disclosures.

146. Non-Invasive Pneumococcal Pneumonia in the United States, 2013–2014
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Session: 147. Respiratory Infections: CAP Friday, October 5, 2018: 12:30 PM

Background. Surveillance for pneumococcal pneumonia (PP) is challenging due to limitations of available diagnostic tests. Previous studies estimated PP from all-cause pneumonia or invasive pneumonia (i.e., positive S. pneumoniae sterile site culture). In 2014, pneumococcal conjugate vaccine (PCV13) was recommended for adults ≥26 years old. We established population-based surveillance for non-invasive pneumococcal pneumonia (NPP) to estimate disease burden and establish a baseline for PCV13 impact evaluation.

Methods. We defined as cases or radiographically confirmed pneumococcal pneumonia, positive pneumococcal urine antigen test (UAT), and no evidence of invasive pneumococcal disease in a hospitalized adult ≥18 years old residing in our surveillance areas, which overlap with active bacterial core surveillance areas representing 17,000,000 adults across the United States. We estimated NPP incidence (cases/100,000 population) using US Census data and applying two adjustment factors: (1) the proportion of pneumonia, positive pneumococcal urine antigen test (UAT) and an M had a PSI score ≤ 70 and 33% had a PSI score between 71–90. The mean LOS for patients with a PSI score ≤70 and 71–90 ranged between 5.2 and 6.6 days, depending on CCI score. Mortality was less than 0.5% for patients with PSI scores ≤70 and 1.4% for patients with a 71–90 PSI score.

Conclusion. More than two-thirds of hospitalized CAPB patients who received CTX and an M had a PSI score ≤ 90. On average, hospital LOS was 5–6 days for CAPB patients with PSI ≤ 90. These findings reflect the critical need to identify outpatient treatments that can effectively reduce hospital admissions.

Disclosures. T. Lodise, Paratek Pharmaceuticals: Consultant and Scientific Advisor, Consulting fee. K. LaPensee, Paratek Pharmaceuticals: Employee, Salary.

146.3 Comparative Evaluation of Adverse Tendon Events Between Recipients of Fluoroquinolones and Ceftriaxone/Azithromycin Among Veterans Affairs Patients with Community Acquired Bacterial Pneumonia
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Session: 147. Respiratory Infections: CAP Friday, October 5, 2018: 12:30 PM

Background. Fluoroquinolones (FQs) are used commonly for patients with community acquired bacterial pneumonia (CAPB). A recent FDA Drug Safety Communication strengthened labeling regarding tendinopathy/tendon rupture for FQs. The data prompting this change lacked a comparator group of patients using other antibiotics, like ceftriaxone/azithromycin (CTX-AZ) for similar indications. The objectives of this study were to compare the incidence of adverse tendon events (TE) between FQ and CTX-AZ among patients with CAPB and determine if FQ treatment is independently associated with TE.

Methods. A retrospective cohort study was performed among patients in the Upstate New York Veterans’ Healthcare Administration. Inclusion criteria: (1) age ≥18 years, (2) diagnosis of CAPB (ICD9 code with manual confirmation) from January 2014 to December 2015, (3) receipt of IV/oral FQ or CTX-AZ ≥1 day, and (4) treatment initiated as inpatient. Data were collected from PM’s medical records. Occurrence of TE was defined using a natural word search algorithm of patients’ clinical progress notes within 90 days of starting FQ or CTX-AZ therapy. Search terms were: tendinopathy, tendon pain, tendon rupture, tendinitis, and Achilles heel pain/tear/torn/rupture. Classification and regression tree (CART) was used to identify breakpoints in continuous variables associated with TE.

Results. There were 379 FQ and 274 CTX-AZ recipients. Mean ± standard deviation (SD) ages for FQ and CTX-AZ recipients were, 73.0 ± 12.7 vs. 72.8 ± 12.7 years, respectively. Mean (SD) APACHE-II was significantly higher for FQ than CTX-AZ recipients, 10.2 ± 5.1 vs. 8.5 ± 3.6, respectively (P = 0.001). Residence in the intensive care unit at start of therapy did not differ (FQ: 11.6% vs. CTX-AZ: 12.0%, P = 0.58). The incidence of TE did not differ between groups (FQ: 9/379 [2.4%] vs. CTX-AZ: 9/274 [3.3%], P = 0.57). In multivariate analyses (figure), treatment was not inde- pendently associated with TE (aOR: 1.78, 95% confidence interval: 0.51–6.21, P = 0.37) after adjustment for treatment duration, APACHE-II, age ≥52 years and BMI ≥27.5.

1462. Hospital Admission Patterns in Adult Patients with Community-Acquired Bacterial Pneumonia Who Received Ceftriaxone and a Macrolide by Pneumonia Severity Index Score
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Session: 147. Respiratory Infections: CAP Friday, October 5, 2018: 12:30 PM

Background. Given the disparity in cost between inpatient and outpatient care, the IDSA/ATS community-acquired pneumonia (CAP) guidelines recommend use of site-of-care severity of illness indicators to identify CAP patients who may be candidates for outpatient treatment. Despite this level 1 recommendation, there remain limited data on US hospital community-acquired bacterial pneumonia (CAPB) admissions patterns stratified by Pneumonia Severity Index (PSI) score and presence of comorbidities. This study described hospitalization and length of stay (LOS) patterns among adult patients with CAPB who received ceftriaxone (CTX) and a macrolide (M) at admission in the MedAssets database. The primary objective was to quantify the proportion of admissions and associated hospital LOS among “low-risk” patients (PSI score ≤ 90) where outpatient or short admission is advocated.

Methods. A retrospective study of patients hospitalized for CAPB and in the MedAssets database during 2012–2015 was performed. Inclusion criteria: (1) age ≥18 years, (2) a primary diagnosis for CAPB, (3) received CTX and a M on hospitalization Day 1 or 2, and (3) ≥2-year enrollment before the index date. For patients with multiple hospitalizations for CAPB during the study period, only the first episode was considered. Distribution of hospital admissions was stratified by PSI categories and Charlson Comorbidity Index (CCI). Both PSI and CCI were derived from diagnosis codes. Hospital LOS and mortality rates were tabulated across resulting PSI-CCI category.

Results. During the study period, 68,254 patients met inclusion criteria. Among hospitalized CAPB patients, 35% had a PSI score ≤ 70 and 33% had a PSI score between 71–90. The mean LOS for patients with a PSI score ≤70 and 71–90 ranged between 5.2 and 6.6 days, depending on CCI score. Mortality was less than 0.5% for patients with PSI scores ≤70 and 1.4% for patients with a 71–90 PSI score.

Conclusion. More than two-thirds of hospitalized CAPB patients who received CTX and an M had a PSI score ≤ 90. On average, hospital LOS was 5–6 days for CAPB patients with PSI ≤ 90. These findings reflect the critical need to identify outpatient treatments that can effectively reduce hospital admissions.

Disclosures. T. Lodise, Paratek Pharmaceuticals: Consultant and Scientific Advisor, Consulting fee. K. LaPensee, Paratek Pharmaceuticals: Employee, Salary.
Elevated and multivariate relationships between clinical covariates and adverse tendon events

| Covariate | Covariate Level | Tendon Event (n = 13) | Unadjusted Risk Ratio | Adjusted Odds Ratio (95% confidence interval) | P value |
|-----------|----------------|----------------------|-----------------------|---------------------------------------------|---------|
| Treatment | FQ             | 9/57 (2.4%)          | 1.83                  | 1.78 (0.51–6.21)                            | 0.37    |
| Age ≥ 50 yrs | Yes             | 1/62 (1.6)          | 0.17                  | 0.20 (0.05–0.88)                            | 0.03    |
| No        | 3/59 (5.1%)    |                      |                       |                                             |         |
| BMI ≥ 27.5 | Yes             | 11/29 (3.7%)         | 6.67                  | 5.97 (1.29–27.61)                           | 0.02    |
| No        | 2/35 (0.6%)    |                      |                       |                                             |         |
| CLCR < 80 | No              | 4/487 (1.8%)         | 3.11                  |                                             |         |
| Yes       | 12650 (1.9%)   |                      |                       |                                             |         |
| Diastolic  | Yes             | 4/114 (2.7%)         | 3.18                  |                                             |         |
| No        | 2239 (0.6%)    |                      |                       |                                             |         |
| Osteoarthritis | Yes             | 5/160 (3.3%)        | 2.10                  |                                             |         |
| No        | 8403 (1.6%)    |                      |                       |                                             |         |

CART trees help. The multivariate analyses included all covariates at model entry that were associated with adverse tendon events (TE) with p < 0.25 in binary analyses, APACHE-II score and duration of therapy.

Conclusion. Incidence of TE did not significantly differ between FQ and CTX-AZ recipients. After adjustment, FQ treatment was not independently associated with an increased risk of TE.

Disclosures. T. P. Lodise, paratek: Consultant and Scientific Advisor, Consulting fee.

1.466. The Clinical Features of Pneumonia Caused by Legionella pneumophila vs. Streptococcus pneumoniae: A Retrospective Study
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Session: 147. Respiratory Infections: CAP
Friday, October 5, 2018: 12:30 PM

Background. Legionnaires’ disease (LD) is a serious and often lethal pneumonia caused by Legionella bacteria. From 2001 to 2016, the incidence of Legionnaires’ disease has tripled in the United States. The clinical manifestations of pneumonia caused by L. pneumophila (LP) may be similar to those caused by Streptococcus pneumoniae (SP). As mortality from Legionella pneumonia is high (15–50%), an investigation of factors that differentiate these two types of pneumonia is required.

Methods. (1) To determine the clinical features that differentiate community-acquired pneumonia (CAP) caused by LP serogroup 1 vs. SP. (2) To assess outcomes associated with CAP caused by LP serogroup 1 vs. SP. W conducted a retrospective chart review of adult patients admitted between January 1, 2013 and October 31, 2017 with a diagnosis of CAP. The clinical characteristics, comorbidities, month of admission, laboratory values, vital signs, and outcome measures were collected. (3) A multivariable analysis was performed to determine which factors were independently associated with CAP caused by LP serogroup 1 vs. SP.

Results. 0.0001), diarrhea (OR = 3.7, P < 0.001), and abnormal CRP (OR = 3.7, P < 0.001), were associated with higher morbidity and mortality than SP.

Discussion. Higher temperature and diarrhea may be used as biomarkers for higher mortality and for appropriate empiric antibiotics. Not fully-immunized patients were more likely to be appropriately treated if they had radiographic evidence of CAP on imaging (OR = 0.009, P < 0.01) and were considered appropriate to treat (91%, P = 0.012).

Conclusion. Improvement in prescribing is needed in the outpatient setting for CAP. A stewardship program could target patients with risk factors for DRSP to improve compliance with the IDSA guidelines by ensuring appropriate antibiotic regimens.

Disclosures. All authors: No reported disclosures.

1.466. Adherence to Empiric Treatment Recommended by IDSA/PIDS Pediatric Community-Acquired Pneumonia (CAP) Guidelines According to Immunization Status
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Session: 147. Respiratory Infections: CAP
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Background. Current pediatric CAP guidelines recommend empiric antibiotic treatment based on patient’s immunization status against Haemophilus influenzae and Streptococcus pneumoniae. The primary objective of this study was to assess the current empiric antimicrobial treatment practices for CAP based on the immunization status of pediatric patients.

Methods. This retrospective cohort included pediatric patients diagnosed with CAP and received initial empiric antibiotics after presentation to the institution. The cohorts were categorized as fully immunized or not fully immunized consistent with state and national health recommendations. State health records and the child’s age at the primary outcome was receipt of appropriate vs. inappropriate antibiotics according to guideline recommendations.

Results. A total of 189 patients (129 fully immunized and 60 not fully-immunized) were included in the interrval analysis. A total of 104 patients (55%) received inappropriate antibiotics (62 of the fully immunized (48%) and 42 of the not fully immunized (70%) received inappropriate antibiotics). Multivariable analysis identified not fully-immunized and age as independent predictors for inappropriate empiric antibiotics for CAP, aOR 2.77, 95% CI (1.20, 5.89). P = 0.008, and aOR 1.41, 95% CI (1.15, 1.72), P = 0.001. Multivariable analyses were used to evaluate inappropriate empiric antibiotic use for CAP patients. All authors: No reported disclosures.

Conclusion. Our data suggest that high temperature and diarrhea may be used as biomarkers for higher mortality and for appropriate empiric antibiotics. Not fully-immunized patients were more likely to receive inappropriate empiric antibiotics for CAP and subsequently did not have improved morbidity.

Disclosures. All authors: No reported disclosures.

1.465. Discovering Outpatient Stewardship Targets: An Evaluation of Community Acquired Pneumonia in the Outpatient Setting
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Session: 147. Respiratory Infections: CAP
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Background. Community acquired pneumonia (CAP) is one of the leading causes of death in the United States. While most data regarding management of CAP comes from management of hospitalized patients, the majority of CAP cases are actually managed on an outpatient basis. The primary outcome of this study was to determine the influence of appropriate antibiotic therapy on patient outcomes. Secondary outcomes included length of stay and 30-day readmission rates.

Methods. Patients were identified by ICD-9/10 codes for CAP. Patients were seen in the Veterans Affairs Western New York Healthcare System which consists of the emergency room, and local, home-based and rural clinics between January 2008 and January 2018. Those who were treated appropriately and those who were not were compared using Student’s t-test or chi-square tests.

Results. This study included 518 veterans with CAP. Sixty-six percent of veterans were deemed appropriate to treat. Of the 341 patients who had an appropriate diagnosis of CAP, 31% received an appropriate antibiotic regimen. Of those who were appropriate to treat, 83% received an appropriate drug and 83% were not complicated.

Conclusion. Community acquired pneumonia (CAP) is one of the leading causes of death in the United States. While most data regarding management of CAP comes from management of hospitalized patients, the majority of CAP cases are actually managed on an outpatient basis. The primary outcome of this study was to determine the influence of appropriate antibiotic therapy on patient outcomes. Secondary outcomes included length of stay and 30-day readmission rates.

Disclosures. All authors: No reported disclosures.