

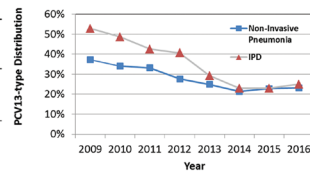
IPD cases in adults ≥ 18 years; PCV13 serotypes accounted for 53% in 2009 and 25% of IPD in 2016. The correlations between IPD (ABC) with INV pneumonia (SENTRY) and N-INV pneumonia (SENTRY) were: 0.937 and 0.973 (both $P < 0.01$), respectively (Table 1). The proportion of IPD and N-INV pneumonia due to vaccine serotypes decreased consistently and monotonically until 2014 and then plateaued (Figure 1).

Conclusion. We found a strong correlation between databases (SENTRY and ABC) and between INV and N-INV pneumococcal disease in the proportion of disease due to PCV13 types. Our findings would need to be confirmed at the individual serotype level. The observed decrease in PCV13-type disease through 2014 is compatible with herd effect from PCV13 vaccination in children. The plateau suggests remaining disease that may be addressed by direct vaccination of adults. Surveillance of IPD alone could guide some policy on PCV13-type pneumococcal pneumonia.

Table 1. Correlation of PCV13-type Grouping Pneumococcal Disease, United States, 2009-2016

	Invasive Pneumococcal D. (ABC Surveillance)	Invasive Pneumonia (SENTRY)	Non-Invasive Pneumonia (SENTRY)
Invasive Pneumococcal D. (ABC Surveillance)	1.000	0.937 (p<0.002)	0.973 (p<0.001)
Invasive Pneumonia (SENTRY)	0.937 (p<0.002)	1.000	0.9481 (p<0.001)

Figure 1. Trends in PCV13-type Grouping Distribution



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1447. Molecular Epidemiology, Serotype Distribution, Antimicrobial Sensitivity, and Clinical Findings of adult Pneumococcal Pneumonia Patients in Japan: Hospital-Based Study

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Session: 147. Respiratory Infections: CAP
Friday, October 5, 2018: 12:30 PM

Background. *S. pneumoniae* (SP) is one of the most important bacteria for pneumonia among adults. We investigated hospital-based proportion of antimicrobial resistance, distribution of serotypes, sequence types (STs) and clinical findings among adult pneumococcal pneumonia patients, and compared microbiological results with the previous study that was reported 10 years ago in Japan.

Methods. A multicenter prospective surveillance for adult pneumonia was conducted from September 2011 to August 2014 in Japan. We enrolled aged over 15 years, community-acquired or healthcare-associated pneumonia patients, and obtained clinical information and sputum samples. Sputum samples were cultured quantitatively or qualitatively at each study sites. Identified SP strains were transported to our laboratory for serotyping by the Quellung reaction. We also extracted DNA from SP strains for multilocus sequence typing. Antimicrobial sensitivity tests for penicillin (PCG), ceftriaxone (CTRX), and meropenem (MEPM) were conducted using agar dilution method. Differences of clinical findings were analyzed using the chi-square test.

Results. We enrolled 200 cases and obtained 205 SP strains. Most dominant serotype was three (24.4%) and ST was 180 (22.9%). Those results were same as the previous report. The proportion of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine serotypes was 58.5 and 75.6%, respectively. Most of SP strains were sensitive for antibiotics (96.1% for PCG, 94.1% for CTRX, and 81.5% for MEPM) and the antimicrobial sensitivity also did not greatly have a change with the previous study reported 10 years ago. Pneumococcal pneumonia patients due to serotype 3 was higher hospitalization rate and CURB-65 score than other serotypes (hospitalization rate was 73.5 and 60.3%, respectively; $P = 0.095$, and proportion of 3 or more CURB-65 score was 36.4 and 20.7%, respectively; $P = 0.039$).

Conclusion. In Japan, SP sensitivity for antibiotics, dominant serotype and ST were not changed so much from 10 years ago. Serotype 3 SP contributed to the disease severity of adult pneumococcal pneumonia in Japan.

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1448. Impact of Mental Illness on Outcomes of Outpatients with Community-Acquired Pneumonia

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Background. According to the National Alliance on Mental Illness, one in five American adults experiences a mental health condition every year. CAP is often treated with antibiotics that can prolong the QTc interval. The primary outcome was to assess whether those with a psychiatric disorder were more likely to experience treatment failure and have poor outcomes in the treatment of community acquired pneumonia (CAP).

Methods. A retrospective chart review was performed using ICD-9/10 codes for CAP between January 1, 2008 and January 31, 2018. Patients were included if they were seen at the Western New York VA Healthcare System, emergency room, primary or rural care clinics. Data were analyzed via the Student's *t*-test or chi-squared test.

Results. A total of 518 patients met criteria and 49% had a psychiatric disorder. Compared with patients without psychiatric disorders, patients with psychiatric co-morbidity were more likely to receive an appropriate dose of antibiotics (99.4% vs. 93.6% $P = 0.0004$) as well as an appropriate duration (78% vs. 68% $P = 0.03$). Patients with a psychiatric disorder were not more likely to experience failure or subsequent admission. There was no statistically significant difference in early or late CAP treatment failure in those with a psychiatric disorder compared with those without ($P = 0.3383$; $P = 0.116$). There was also no statistically significant difference in 30-day readmission rates, 30-day mortality, or 90-day mortality ($P = 0.4095$; $P = 0.3383$; $P = 0.3790$). They were more likely to be prescribed conditional risk QTc prolonging agents concomitantly (70.2% vs. 26.9% $P < 0.0001$); however, differences in prescribing rates of a QTc prolonging antibiotic, such as a fluoroquinolone or macrolide, were not statistically significant (85.3% vs. 83.4% $P = 0.5353$).

Conclusion. While mental illness is often associated with poor outcomes, this study emphasizes the need to continue to remove the stigma of mental illness when treating patients with common outpatient infections.

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1449. Comparison of Emergency Department vs. Inpatient Pediatric Treatment for Empiric Community Acquired Pneumonia in Infants and Children over 3 Months of Age

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Background. The Infectious Diseases Society of America (IDSA) made guidelines for management of community acquired pneumonia (CAP) in healthy infants and children older than 3 months of age. These were made to assist clinicians in choosing appropriate antimicrobial therapy in order to decrease morbidity and mortality and minimize antimicrobial resistance. Accordingly, narrow-spectrum antibiotics as first-line treatment but inappropriate selection of broad-spectrum antibiotics remains high. Our study investigates the concordance between emergency department (ED) and in-patient prescribers in choosing appropriate antibiotic therapy for CAP.

Methods. This retrospective chart reviews the aforementioned population who were admitted to the inpatient pediatric service via the ED from January 1, 2015–December 1, 2017. Data collection included patient demographics, prior antibiotic use from an outside prescriber, the antimicrobial prescribed in the ED, and the antimicrobial used in the pediatric unit. The primary outcome determined the consistency between the prescribing pattern in the ED and the inpatient. A descriptive statistical analysis was conducted afterward.

Results. A total of 210 patients were admitted to the inpatient pediatric service. The ED prescribed an aminopenicillin to 2.9% of patients or a cephalosporin as monotherapy to 70.9%; 0.9% of patients were started on both types. Once under the hospitalist's service, the hospitalist continued the cephalosporin in 72.4%, switched to an aminopenicillin in 10.6%, switched to a macrolide in 5.4%, and 8.1% discontinued antimicrobials altogether. If an aminopenicillin was started in the ED, it was continued by the hospitalist in 83.3% of the cases, with none switching to a cephalosporin, and one patient being switched to a macrolide.

Conclusion. At our local pediatric hospital, there is poor compliance with IDSA guidelines for CAP. There is high concordance between ED and in-patient prescribers since hospitalists were more likely to continue the antimicrobial started in the ED. Guideline adherence might be improved by focus on antibiotic stewardship and creating order sets that adhere to IDSA guidelines. Future studies could investigate if these suggestions improve overall adherence rates.

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1450. Clinical Characteristics of Patients with Community-Acquired Pneumonia due to *Moraxella catarrhalis* in Adults: A Retrospective Single-Center Study in Okinawa Miyako Island in Japan

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Background. Previous studies reported that *Moraxella catarrhalis* was one of the main pathogens in community-acquired pneumonia (CAP); however, only a few investigations describing CAP due to *M. catarrhalis* (MCAP) have been published until now. Therefore, the data regarding clinical features of MCAP is still unknown.

Methods. The primary objective of the present study was to determine the clinical characteristics of patients with MCAP. Pneumonia patients aged over 20 hospitalized